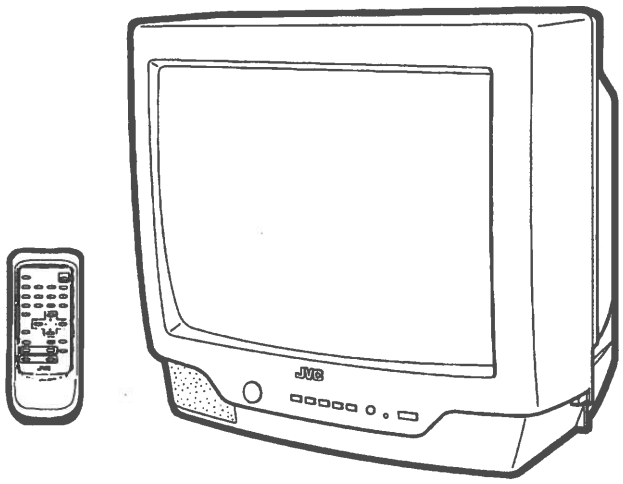
C-13910
C-13911

SERVICE MANUAL

COLOR TELEVISION

BASIC CHASSIS
FV

C-13910 (US&CA)
C-13911 (US&CA)



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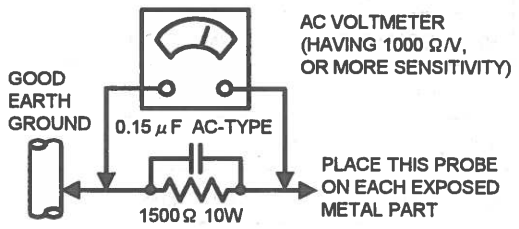
SPECIFICATIONS

Items	Content
Dimensions (W × H × D)	14-3/8" × 13-3/16" × 14-3/4" / 36.4cm × 33.4cm × 37.4cm
Mass	19.8 lbs / 9.0 kg
TV System and Color system	
TV RF System	CCIR(M)
Sound System	NTSC
TV Receiving Channels and Frequency	
VL Band	(02~06) 54MHz~88MHz
VH Band	(07~13) 174MHz~216MHz
UHF Band	(14~69) 470MHz~806MHz
CATV Receiving Channels and Frequency	
Low Band	(02~06, A-8) by (02~06&01)
High Band	(07~13) by (07~13)
Mid Band	(A~1) by (14~22)
Super Band	(J~W) by (23~36)
Hyper Band	(W+1~W+28) by (37~64)
Ultra Band	(W+29~W+84) by (65~125)
Sub Mid Band	(A8, A4~A1) by (01, 96~99)
	(54MHz~804MHz)
TV/CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz (4.5MHz)
Color Sub Carrier	3.58MHz
Antenna Input Impedance	75Ω (VHF/UHF) Terminal, F-Type Connector
Power Input	120V AC, 60Hz
Power Consumption	60W (US) / 1.1A (CA)
Picture Tube	13" (34cm) Measured Diagonally
High Voltage	22.5kV±1kV (at zero beam current)
Speaker	3-3/16" (8cm) Round type
Audio Power Output	1W
Video Input	1Vp-p, 75Ω
Audio Input	500mVrms (-4dBs), High Impedance
Remote Control Unit	RM-C542-1H [C-13910(US&CA)] RM-C542W-1H [C-13911(US&CA)] (AA / R6 / UM-3 dry battery × 2)

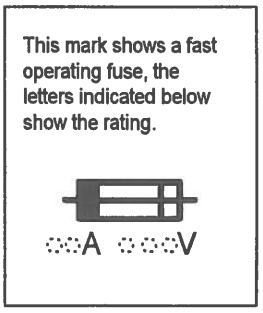
Design & specification are subject to change without notice.

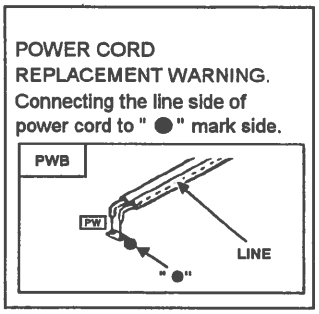
SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**
   The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
10. **Isolation Check**
    (Safety for Electrical Shock Hazard)
    After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
    (1) **Dielectric Strength Test**
    The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
    (. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
    This method of test requires a test equipment not generally found in the service trade.
    (2) **Leakage Current Check**
    Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
    However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).
    ● **Alternate Check Method**
    Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
    However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. **High voltage hold down circuit check.**
    After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
    See item **"How to check the high voltage hold down circuit"**.





FEATURES

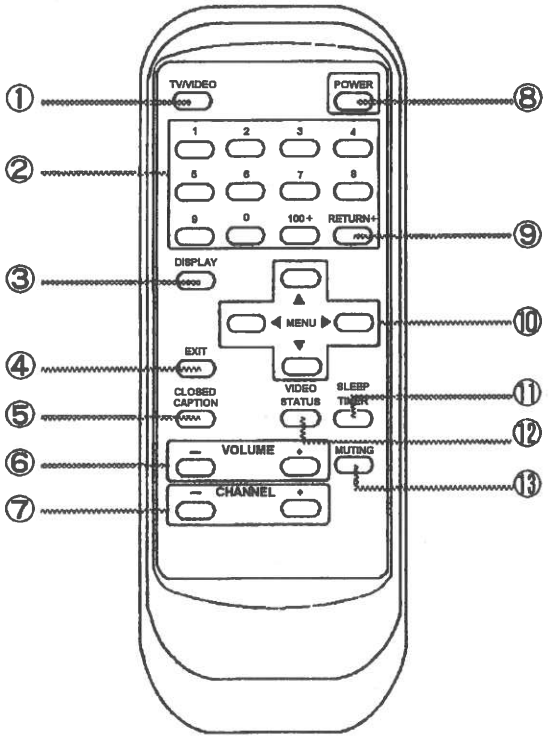
- New chassis design enables use of a single board with simplified circuitry.
- Provided with miniature tuner (TV/CATV).
- Multifunctional remote control permits picture adjustment.
- Adoption of the CHANNEL GUARD function prevents the specific channels from being selected, unless the "ID number" is key in.
- Adoption of the VIDEO STATUS function.
- Adoption of the ON/OFF TIMER function.
- With 75Ω V/U in common (F-Type) ANT Terminal.
- SLEEP TIMER for setting in real time.
- Closed-caption broadcasts can be viewed.
- Audio Video input terminal.

DIFFERENCE LIST OF MAIN PARTS

⚠	Parts Name	Charcoal model		White model	
		C-13910(US)	C-13910(CA)	C-13911(US)	C-13911(CA)
	MAIN PWB	SFV-1001A-M2	←	SFV-1002A-M2	←
⚠	POWER CORD	QMPD070-200-JC (Within MAIN PWB)	←	QMPD079-200-JC (Within MAIN PWB)	←
	RESISTOR R1758	QRSA08J-681YL CHIP MGR 680Ω 1/10W J (Within MAIN PWB)	←	QRSA08J-122YL CHIP MGR 1.2kΩ 1/10W J (Within MAIN PWB)	←
⚠	FRONT CABINET	LC10055-001B-A	←	LC10055-002B-A	←
	POWER KNOB	LC30376-001A-A	←	LC30376-002A-A	←
	CONTROL KNOB	LC30189-001B-A	←	LC30189-002B-A	←
⚠	REAR COVER	LC10056-001A-A	←	LC10056-002A-A	←
⚠	RATING LABEL	CM22998-001-A	CM22999-001-A	CM22998-001-A	CM22999-001-A
	REMOCON UNIT	RM-C542-1H	←	RM-C542W-1H	←
	PACKING CASE	LC10058-001A-A	←	LC10058-002A-A	←
⚠	INST BOOK (FRENCH)	×	LCT0108-001A-A	×	LCT0108-001A-A
	REGI. CARD	BT-51006-1Q	×	BT-51006-1Q	×
	SVC CENTER LIST	×	BT-20071B-Q	×	BT-20071B-Q

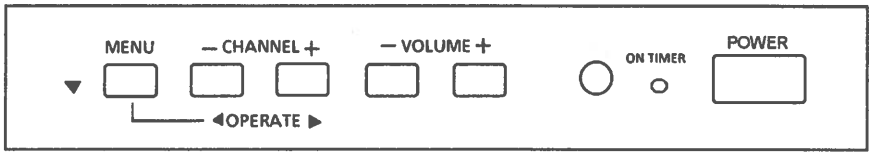
FUNCTIONS

■ REMOTE CONTROL UNIT

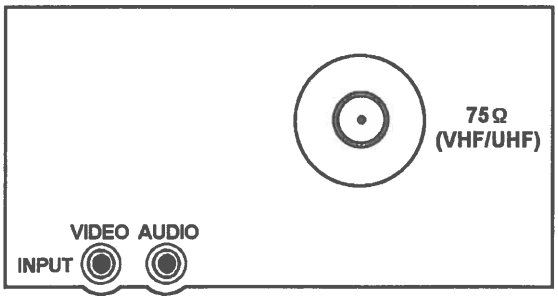


① TV/VIDEO button
② Number keys
③ DISPLAY button
④ EXIT button
⑤ CLOSED CAPTION button
⑥ VOLUME (-/+) button
⑦ CHANNEL (-/+) button
⑧ POWER button
⑨ RETURN + button
⑩ MENU (▼▲◀▶) buttons
⑪ SLEEP TIMER button
⑫ VIDEO STATUS button
⑬ MUTING button

■ FRONT PANEL



■ REAR PANEL



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power supply cord.
2. Remove the 5 screws marked Ⓐ as shown in Fig.1.
3. Withdraw the REAR COVER toward you.

[CAUTION]
- When reinstalling the rear cover, carefully push it inward after inserting the MAIN PWB into the rear cover groove.

REMOVING THE MAIN PW BOARD

1. The two claws of the CONTROL KNOB attached to the MAIN PWB marked Ⓑ as shown in Fig.1 are locked under the FRONT CABINET.
2. While pushing the claws from the bottom of the FRONT CABINET, withdraw the MAIN PWB.
   (If necessary, take off the wire clamp and connectors, etc.)

REMOVING THE SPEAKER

- After removing the MAIN PW board.

1. By holding up the SPEAKER HOLDER marked Ⓒ slightly and unlocking the claw, the SPEAKER HOLDER can be removed. Then you can remove the SPEAKER.

CHECKING THE MAIN PW BOARD

1. To check the back side of the MAIN PW Board.
   1) Pull out the MAIN PWB. (Refer to REMOVING THE MAIN PWB).
   2) Erect the chassis vertically so that you can easily check the back side of the MAIN PW Board.

[CAUTION]
- When erecting the MAIN PWB, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.

WIRE CLAMPING AND CABLE TYING

1. Be sure clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

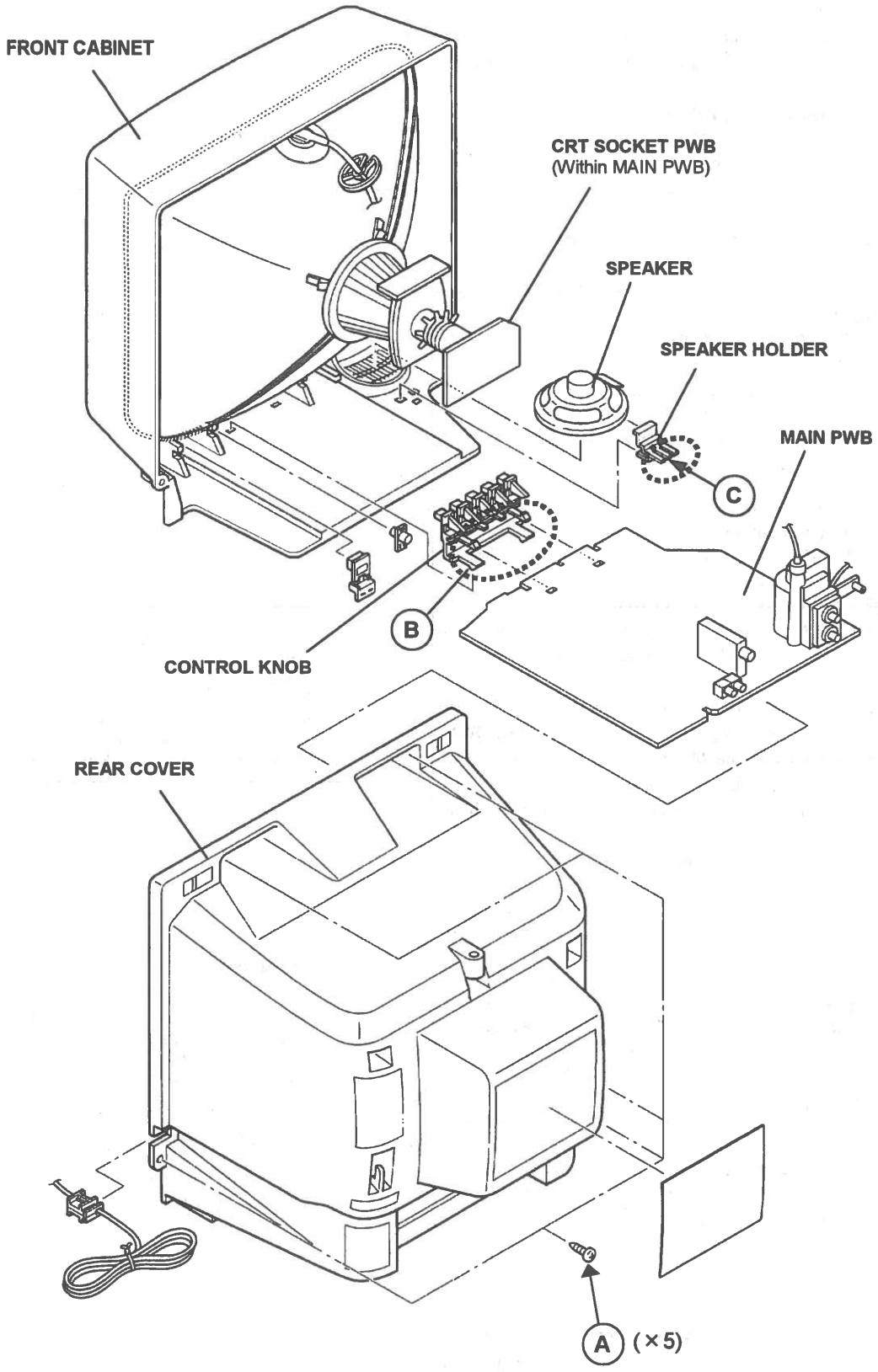

FRONT CABINET
CRT SOCKET PWB
(Within MAIN PWB)
SPEAKER
SPEAKER HOLDER
MAIN PWB
C
B
CONTROL KNOB
REAR COVER
A
(×5)

Fig.1

MEMORY IC REPLACEMENT

1. Memory IC

This model use a memory IC.
This memory IC stores data for proper operation of the video and deflection circuits.
When replacing, be sure to use an IC containing this (initial value) data.

2. Memory IC replacement procedure

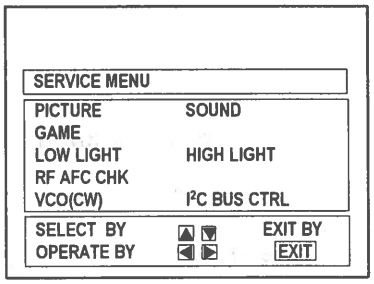
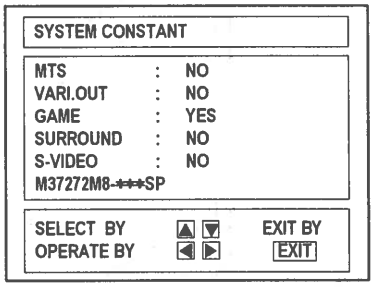
Procedure	Screen display
(1) Power off Switch off the power and disconnect the power cord from the outlet.	
(2) Replace the memory IC Initial value must be entered into the new IC.	
(3) Power on Connect the power cord to the outlet and switch on the power.	
(4) System constant check and setting 1) Simultaneously press the DISPLAY key and VIDEO STATUS key of the remote control unit. 2) The SERVICE MENU screen of Fig.1 is displayed. 3) While the SERVICE MENU is displayed, again simultaneously press the DISPLAY and VIDEO STATUS keys to display the Fig.2 SYSTEM CONSTANT screen. 4) Refer to the SYSTEM CONSTANT table and check the setting items. Where these differ, select the setting item with the MENU UP/DOWN key and adjust the setting with the MENU LEFT/RIGHT keys. (The letters of the selected item are displayed in yellow.) 5) After adjusting, release the MENU LEFT/RIGHT key to store the setting value. 6) Press the EXIT key twice to return the normal screen.	 Fig.1  Fig.2
(5) Receive channel setting Refer to the OPERATING INSTRUCTIONS(USER'S GUIDE) and set the receive channels (Channels Preset) as described.	
(6) User settings Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.	
(7) SERVICE MENU setting Verify what to set in the SERVICE MENU, and set whatever is necessary.(Fig.1) Refer to the SERVICE ADJUSTMENT for setting.	

TABLE 1 (System Constant setting)

Setting item	Setting content	Setting value
MTS	YES ⟶ NO	NO
VARI.OUT	YES ⟶ NO	NO
GAME	YES ⟶ NO	YES
SURROUND	YES ⟶ NO	NO
S-VIDEO	YES ⟶ NO	NO

TABLE 2 (User setting value)

Setting item	Setting value
1. Use remote controller keys	
POWER	OFF
CHANNEL	CH 02
CHANNEL PRESET	See OPERATING INSTRUCTIONS.
VOLUME	10
TV/VIDEO	TV
DISPLAY	OFF
SLEEP TIMER	0(OFF)
VIDEO STATUS	STANDARD
CLOSED CAPTION	OFF(CC1/T1)
2. Setting of MENU	
TINT	CENTER
COLOR	CENTER
PICTURE	CENTER
BRIGHT	CENTER
DETAIL	CENTER
NOISE MUTING	ON
SET VIDEO STATUS	ALL CENTER
SET CLOCK	Unnecessary to set
ON/OFF TIMER	NO
CHANNEL SUMMARY	SET OPTIONALLY
SET LOCK CODE	Unnecessary to set
TUNER MODE	AIR
BACKGROUND	BLACK
CLOSED CAPTION	CAPTION : CC1 TEXT : T1
LANGUAGE	ENG

SERVICE ADJUSTMENT

ADJUSTMENT PREPARATION:

1. **You can make the necessary adjustments for this unit with either the Remote Control Unit or With the adjustment tools and parts as given below.**
2. **Adjustment with the Remote Control Unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.**
3. Turn on the power for set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
4. Make sure that AC power is turned on correctly.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. Never touch any adjustment parts which are not specified in the list for this adjustment - variable resistors, transformers, condensers, etc.
7. Presetting before adjustment.
   Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit:

● VIDEO STATUS	STANDARD

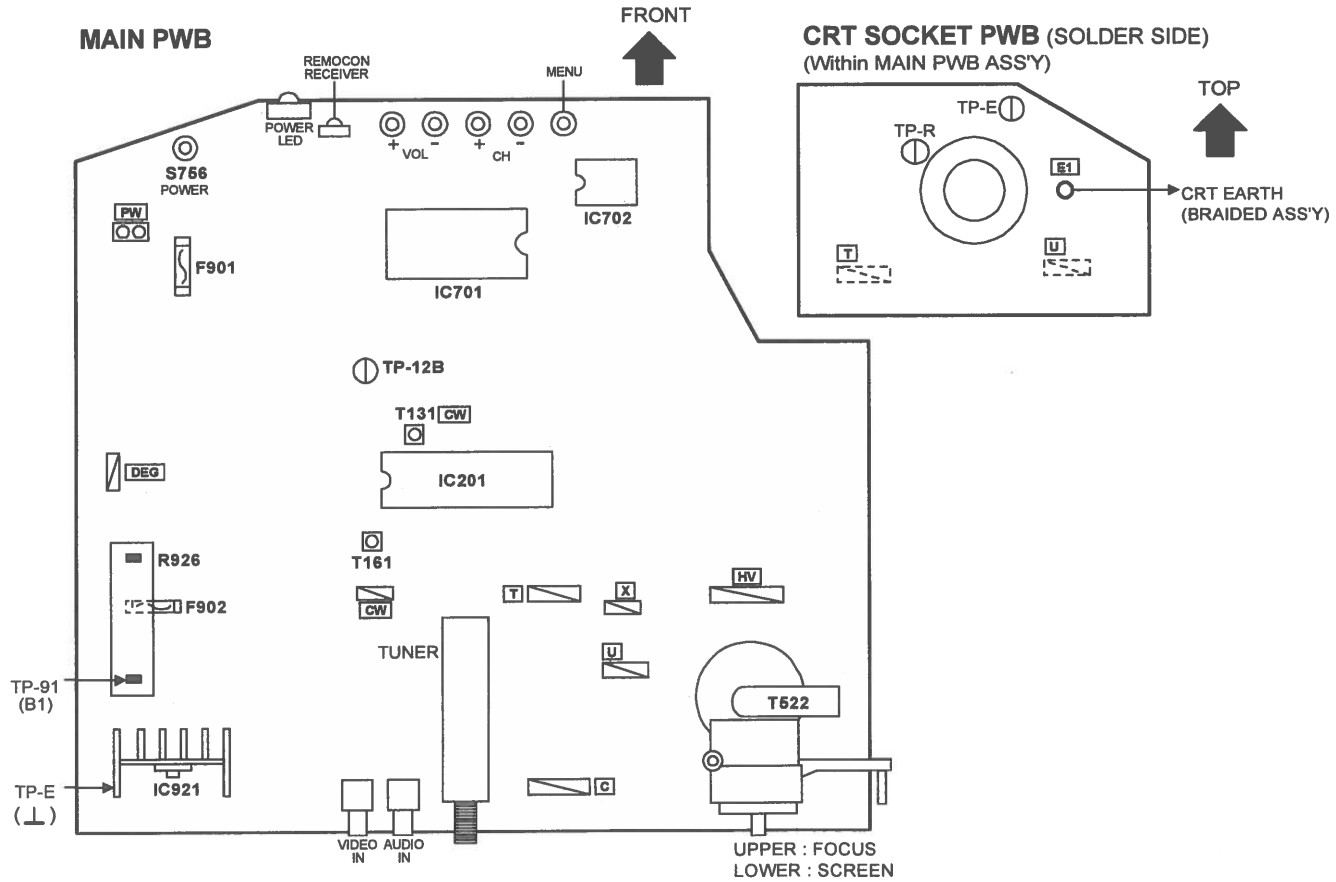
ADJUSTMENT EQUIPMENT

1. DC voltmeter (or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [NTSC]
4. Remote control unit
5. TV audio multiplex signal generator.
6. Frequency counter

ADJUSTMENT ITEMS

Adjustment items	Adjustment items
B1 POWER SUPPLY	WHITE BALANCE (Low Light)
IF VCO	WHITE BALANCE (High Light)
RF. AGC	SUB BRIGHT
FOCUS	SUB CONTRAST
V. SIZE	SUB COLOR
H. POSITION	SUB TINT

ADJUSTMENT LOCATIONS



BASIC OPERATION OF SERVICE MENU

1. Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. In general, 8 basic setting(adjustments) items or verifications are performed in the SERVICE MENU.

(1) PICTURE ····· This sets the setting values (adjustment values) of the VIDEO/CHROMA and DEFLECTION circuits.
(2) SOUND ····· This sets the setting values (adjustment values) of the AUDIO circuit.
(3) GAME ····· This is used when the GAME MODE is adjusted.
(4) LOW LIGHT ····· This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
(5) HIGH LIGHT ····· This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
(6) RF AFC CHK ····· This is used when the IF VCO is adjusted. **[Do not adjust]**
(7) VCO (CW) ····· This is used when the IF VCO is adjusted.
(8) I2C BUS CTRL ····· This is used when ON/OFF of the I2C BUS CTRL is set. **[Fixed ON]**

3. Basic Operations of the SERVICE MENU

(1) How to enter the SERVICE MENU.

Press the DISPLAY key and VIDEO STATUS key of the remote control unit at the same time to enter the SERVICE MENU screen ① shown in figure page later.

(2) SERVICE MENU screen selection

Press the UP / DOWN key of the MENU to select any of the following items.
(The letters of the selected items are displayed in yellow.)

- PICTURE
- SOUND
- GAME
- LOW LIGHT
- HIGH LIGHT
- RF AFC CHK
- VCO(CW)
- I^2C BUS CTRL

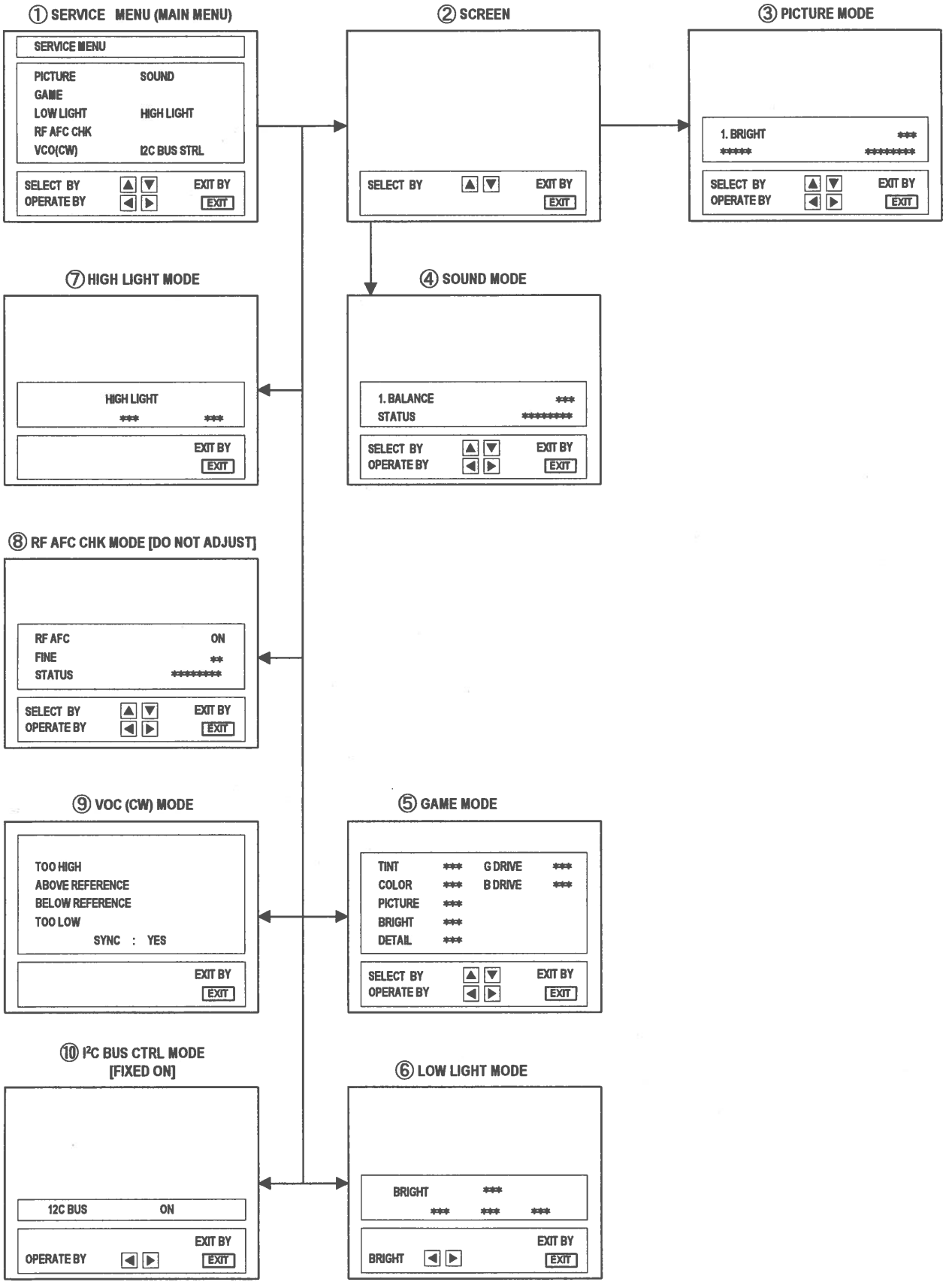
(3) Enter the any setting (adjustment) mode

- **PICTURE and SOUND mode**

1) If select any of PICTURE or SOUND items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screen ② will be displayed as shown in figure page later.
2) Then the UP / DOWN key is pressed, the PICTURE mode screen ③ or the SOUND mode screen ④ is displayed, and the PICTURE or SOUND setting can be performed.

- **GAME, LOW LIGHT, HIGH LIGHT, RF AFC CHK, VCO (CW) and I2C BUS CTRL mode**

1) If select any of GAME / LOW LIGHT / HIGH LIGHT / RF AFC CHK / VCO (CW) / I2C BUS CTRL items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screens ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ will be displayed as shown in figure page later.
2) Then the settings or verifications can be performed.

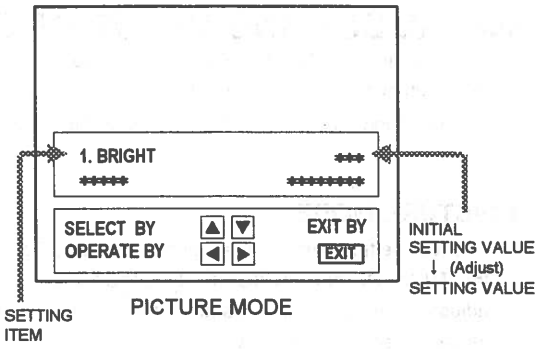

① SERVICE MENU (MAIN MENU)
SERVICE MENU
PICTURE
SOUND
GAME
LOW LIGHT
HIGH LIGHT
RF AFC CHK
VCO(CW)
I2C BUS STRL
SELECT BY
OPERATE BY
EXIT BY
EXIT
② SCREEN
SELECT BY
EXIT BY
EXIT
③ PICTURE MODE
1. BRIGHT
***
*****
****
SELECT BY
OPERATE BY
EXIT BY
EXIT
⑦ HIGH LIGHT MODE
HIGH LIGHT
***
***
EXIT BY
EXIT
④ SOUND MODE
1. BALANCE
***
STATUS
****
SELECT BY
OPERATE BY
EXIT BY
EXIT
⑧ RF AFC CHK MODE [DO NOT ADJUST]
RF AFC
ON
FINE
**
STATUS
****
SELECT BY
OPERATE BY
EXIT BY
EXIT
⑨ VOC (CW) MODE
TOO HIGH
ABOVE REFERENCE
BELOW REFERENCE
TOO LOW
SYNC : YES
EXIT BY
EXIT
⑤ GAME MODE
TINT
***
G DRIVE
***
COLOR
***
B DRIVE
***
PICTURE
***
BRIGHT
***
DETAIL
***
SELECT BY
OPERATE BY
EXIT BY
EXIT
⑩ I²C BUS CTRL MODE
[FIXED ON]
12C BUS
ON
OPERATE BY
EXIT BY
EXIT
⑥ LOW LIGHT MODE
BRIGHT
***
***
***
***
BRIGHT
EXIT BY
EXIT

(4) Setting method

1) UP / DOWN key of the MENU
   Select the SETTING ITEM.

2) LEFT / RIGHT key of the MENU
   Setting(adjust) the SETTING VALUE of the SETTING ITEM.
   When the key is released the SETTING VALUE will be stored (memorized).

3) EXIT key
   Returns to the previous screen.



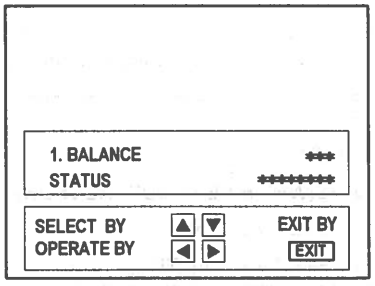
PICTURE MODE

(5) Releasing SERVICE MENU

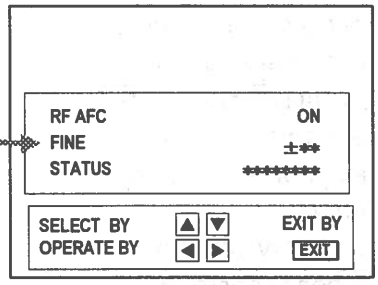
1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.

★ The setting for VCO(CW) are described in the IF VCO page of ADJUSTMENT.

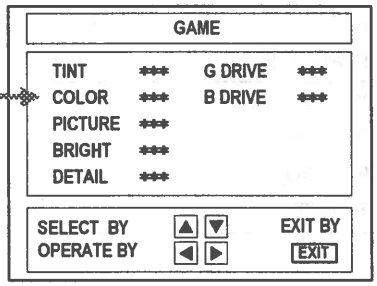


SOUND MODE



RF AFC CHK MODE

The letter of the selected items are displayed in yellow.



GAME MODE

INITIAL SETTING VALUE OF SERVICE MENU

1. Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.
2. Do not change the initial setting values of the setting (Adjustment) items not listed in "ADJUSTMENT".

● PICTURE MODE

✧ The four setting items in the video mode No.8 EXT BRI., No.9 EXT PIC., No.12 EXT TINT and No.13 EXT COL. are linked to the items in the TV MODE No.1 BRIGHT, No.2 PICTURE, No.6 TINT and No.7 COLOR, respectively. When the setting items in the TV mode are adjusted, the values in the setting items in the video mode are revised automatically to the same values in the TV mode.(The initial setting values given in ( ) are off-set values.)

✧ When the four items (No.8, 9, 12 and 13) are adjusted in the video mode, the setting values in each item are revised independently.

No.	Setting (Adjustment) items	Variable range	initial setting value
1.	BRIGHT	0 ~ 127	64
2.	PICTURE	0 ~ 127	60
3.	WPS(WHITE PEAK SUPPRESSOR)	0 ~ 1	1
4.	TV DTL(TV DETAIL)	0 ~ 63	23
5.	TV BPF(TV B.P.FILTER)	0 ~ 1	0
6.	TINT	0 ~ 127	57
7.	COLOR	0 ~ 127	55
8.	EXT. BRI.(EXT.BRIGHT)	±25	(-2)
9.	EXT. PIC.(EXT.PICTURE)	±25	(-2)
10.	EXT. DTL(EXT.DETAIL)	0 ~ 63	25
11.	EXT BPF(EXT.B.P.FILTER)	0 ~ 1	0
12.	EXT. TINT	±25	(+9)
13.	EXT. COL.(EXT.COLOR)	±25	(+3)
14.	V. SIZE	0 ~ 63	20
15.	V. CENT.(V.CENTER)	0 ~ 7	0
16.	H. POS.(H.POSITION)	0 ~ 31	20
17.	OSD HP (OSD H POSITION)	0 ~ 31	23
18.	OSD VP (OSD V POSITION)	0 ~ 31	14
19.	H. AFC	0 ~ 1	0
20.	BLANKING	0 ~ 1	0
21.	Y. TRAP	0 ~ 1	0
22.	RF. AGC	0 ~ 63	40
23.	PIF VCO	0 ~ 127	64
24.	TV/EXT	0 ~ 1	0

● SOUND MODE

No. Setting (Adjustment) item	Variable range	Initial setting value
1. BALANCE	0~63	32

● GAME MODE

Setting (Adjustment) item	Variable range	initial setting value
TINT	±20	0
COLOR	±20	0
PICTURE	±20	-10
BRIGHT	±20	-2
DETAIL	±15	+10
G DRIVE	-80~+50	0
B DRIVE	-80~+50	0

● LOW LIGHT MODE

Setting (Adjustment) item	Variable range	initial setting value
R CUTOFF	0 ~ 255	20
G CUTOFF	0 ~ 255	20
B CUTOFF	0 ~ 255	20

● HIGH LIGHT MODE

Setting (Adjustment) item	Variable range	initial setting value
G DRIVE	0 ~ 255	128
B DRIVE	0 ~ 255	128

● RF AFC CHK MODE

Setting (Adjustment) item	Variable range	initial setting value
RF AFC	ON / OFF	ON
FINE	-77 ~ +77	±××

DO NOT ADJUST

● I²C BUS CTRL MODE

Setting (Adjustment) item	Variable range	initial setting value
I²C BUS	ON / OFF	[Fixed ON]

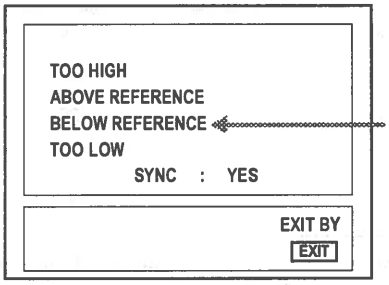
■ ADJUSTMENTS

B1 POWER SUPPLY

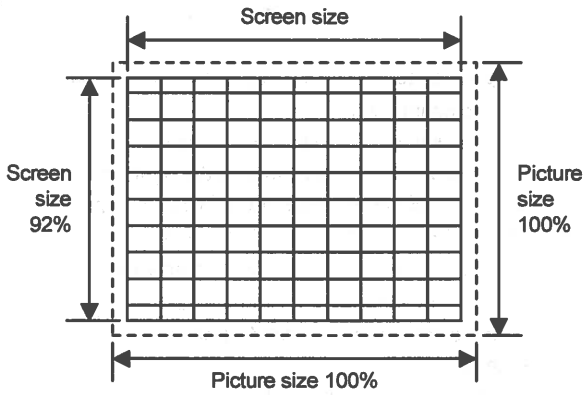
Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 POWER SUPPLY	DC Voltmeter	TP-91 (B1) TP-E(⊥)		1. Receive a monoscope pattern signal. 2. Connect the DC Voltmeter to TP-91 (B1) and TP-E(⊥). 3. Confirm that the voltage is DC134V $^{+2V}_{-2.5V}$.

ADJUSTMENT OF VIDEO / DEF. CIRCUIT

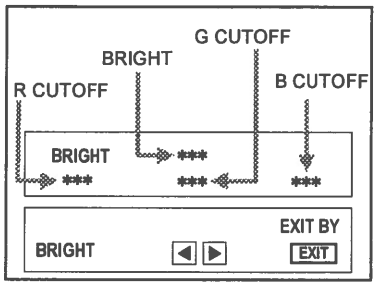
Item	Measuring instrument	Test point	Adjustment part	Description
IF VCO adjustment	Signal generator		CW TRANSF. (T131) [VCO(CW)] MODE	1. Receive a NTSC broadcast. (use channels without offset frequency). 2. Select the VCO(CW) mode from the SERVICE MENU. 3. Confirm the color change (yellow) from "TOO HIGH" to "TOO LOW" by CW TRANSF. and "SYNC : YES" being shown on the screen. Then, adjust CW TRANSF. until "BELOW REFERENCE" mark turns yellow and confirm again " SYNC : YES" being shown on the screen.
RF. AGC adjustment			No.22 RF AGC	1. Receive a broadcast. 2. Select "No.22 RF AGC" of the PICTURE MODE. 3. Press the MUTE key and turn off color. 4. With the MENU LEFT key, get noise in the screen picture. (0 side of setting value) 5. Press the MENU RIGHT key and stop when noise disappears from the screen. 6. Change to other channels and make sure that there Is no irregularity. 7. Press the MUTE key and get color out.
FOCUS adjustment	Signal generator		FOCUS VR [In FBT]	1. Receive a crosshatch signal. 2. While looking at the screen, adjust FOCUS VR so that the vertical and horizontal lines will be clear and in fine detail. 3. Make sure that the picture is in focus even when the screen gets darkened.

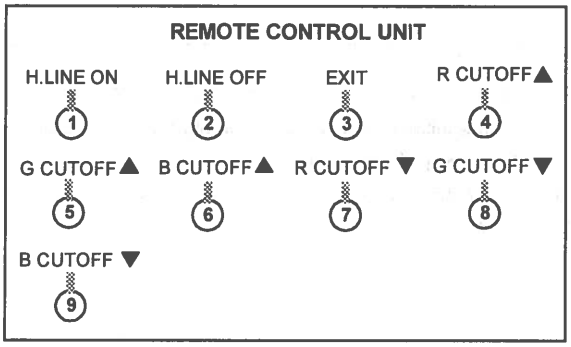


Item	Measuring instruments	Test point	Adjustment part	Description
V.SIZE Adjustment	**Signal generator**		**No.14 V.SIZE**	1. Receive a crosshatch signal. 2. Select No.14 V.SIZE in the PICTURE MODE. 3. Set the initial setting value of No.14 V.SIZE with the LEFT / RIGHT key of the MENU. 4. Adjust No.14 V.SIZE until the vertical screen size is 92%.
H.POSITION Adjustment	**Signal generator**		**No.16 H.POS**	1. Receive a crosshatch signal. 2. Select the No.16 H.POS of the PICTURE MODE. 3. Set the initial setting value of the No.16 H.POS with the LEFT / RIGHT key of the MENU. 4. Adjust the No.16 H.POS until the screen will be horizontally centered.

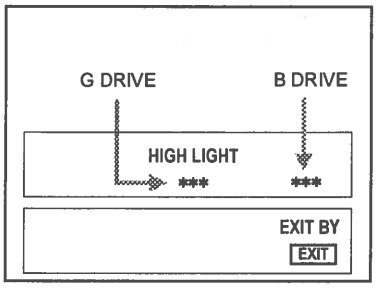


<table>
<tr><th>Item</th><th>Measuring instruments</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>WHITE BALANCE (Low Light) Adjustment</td><td>Signal generator</td><td></td><td>BRIGHT
R. CUTOFF
G. CUTOFF
B. CUTOFF
SCREEN VR
(In FBT)</td><td>1. Receive a monoscope pattern signal.
2. Select the【LOW LIGHT】MODE from the SERVICE MENU.
3. Set the initial setting value of BRIGHT with the LEFT / RIGHT key of the remote control unit.
4. Set the initial setting value of R CUTOFF, G CUTOFF and B CUTOFF with the ④ to ⑨ key of the remote control unit.
5. Display a horizontal line by pressing the ①key of the remote control unit.
6. Turn the screen VR all the way to the left.
7. Turn the screen VR gradually to the right from the left until either one of the red, blue or green colors appears slightly.
8. Adjust the two colors which did not appear until the a horizontal line that is displayed becomes white using the ④ to ⑨ keys of the remote control unit.
9. Turn the screen VR until the first horizontal line is displayed slightly.
10. Press the ② key to return to the regular screen.

* The ③ EXIT key is the cancel key for the WHITE BALANCE.</td></tr>
<tr><td colspan="4">[LOW LIGHT] MODE
 

 
</td></tr>
<tr><td>WHITE BALANCE (High Light) Adjustment</td><td>Signal generator</td><td></td><td>G. DRIVE
B. DRIVE</td><td>1. Receive a monoscope pattern signal.
2. Select the【HIGH LIGHT】MODE in the SERVICE MENU.
3. Set the initial setting value of G DRIVE and B DRIVE with the ⑤, ⑥, ⑧ and ⑨ keys of the remote control unit.
4. Adjust the screen until it becomes white using the ⑤, ⑥, ⑧ and ⑨ keys of the remote control unit.

* The ③ (EXIT) key is the cancel key for the WHITE BALANCE.

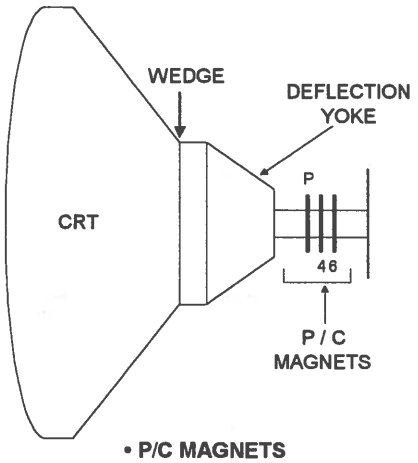
Remote Control Unit
① key : H.LINE ON
② key : H.LINE OFF
③ key : EXIT
⑤ key : G DRIVE ▲
⑥ key : B DRIVE ▲
⑧ key : G DRIVE ▼
⑨ key : B DRIVE ▼</td></tr>
<tr><td colspan="4">[HIGH LIGHT] MODE
 
</td></tr>
</table>

Item	Measuring instruments	Test point	Adjustment part	Description
SUB BRIGHT Adjustment			**No.1 BRIGHT**	1. Receive a broadcast. 2. Select No.1 BRIGHT of the PICTURE MODE. 3. Set the initial setting value of the No.1 BRIGHT with the LEFT / RIGHT key of the MENU. 4. If the brightness is not best with the initial setting value, make fine adjustment of the No.1 BRIGHT until you get the optimum brightness.
SUB CONT-RAST Adjustment			**No.2 PICTURE**	1. Receive a broadcast. 2. Select No.2 PICTURE of the PICTURE MODE. 3. Set the initial setting value of the No.2 PICTURE with the LEFT / RIGHT key of the MENU. 4. If the contrast is not best with the initial setting value, make fine adjustment of the No.2 PICTURE until you get the optimum contrast.
SUB COLOR Adjustment			**No.7 COLOR**	1. Receive a broadcast. 2. Select No.7 COLOR of the PICTURE MODE. 3. Set the initial setting value of the No.7 COLOR with the LEFT / RIGHT key of the MENU. 4. If the color is not best with the initial setting value, make fine adjustment of the No.7 COLOR until you get the optimum color.
SUB TINT Adjustment			**No.6 TINT**	1. Receive a broadcast. 2. Select No.6 TINT of the PICTURE MODE. 3. Set the initial setting value of the No.6 TINT with the LEFT / RIGHT key of the MENU. 4. If the tint is not best with the initial setting value, make fine adjustment of the No.6 TINT until you get the optimum tint.

PURITY, CONVERGENCE

PURITY ADJUSTMENT

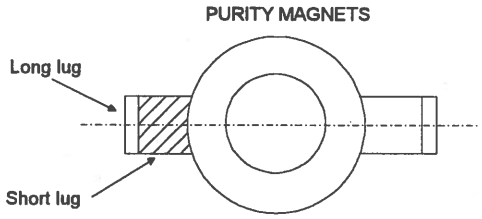
1. Demagnetize CRT with the demagnetizer.
2. Loosen the retainer screw of the deflection yoke.
3. Remove the wedges.
4. Input a green raster signal from the signal generator, and turn the screen to green raster.
5. Move the deflection yoke backward.
6. Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig.2)
7. Adjust the gap between two lugs so that the GREEN RASTER will come into the center of the screen. (Fig.3)
8. Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
9. Insert the wedge to the top side of the deflection yoke so that it will not move.
10. Input a crosshatch signal.
11. Verify that the screen is horizontal.
12. Input red and blue raster signals, and make sure that purity is properly adjusted.



• **P/C MAGNETS**

P : PURITY MAGNET
4 : 4 POLES (convergence magnets)
6 : 6 POLES (convergence magnets)

Fig.1



Bring the long lug over the short lug and position them horizontally.

Fig.2

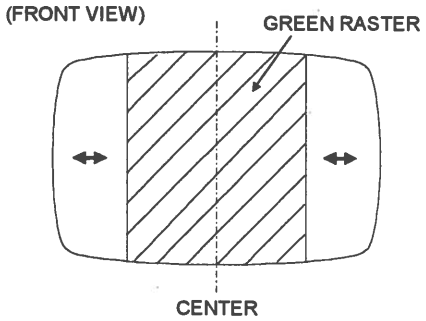


Fig.3

STATIC CONVERGENCE ADJUSTMENT

1. Input a crosshatch signal.
2. Using 4-pole convergence magnets, overlap the red and blue lines in the center of the screen (Fig.1) and turn them to magenta (red/blue).
3. Using 6-pole convergence magnets, overlap the magenta(red/blue) and green lines in the center of the screen and turn them to white.
4. Repeat 2 and 3 above, and make best convergence.

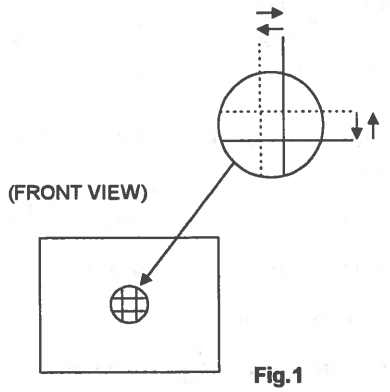


Fig.1

DYNAMIC CONVERGENCE ADJUSTMENT

1. Move the deflection yoke up and down and overlap the lines in the periphery. (Fig. 2)
2. Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 3)
3. Repeat 1 and 2 above, and make best convergence.

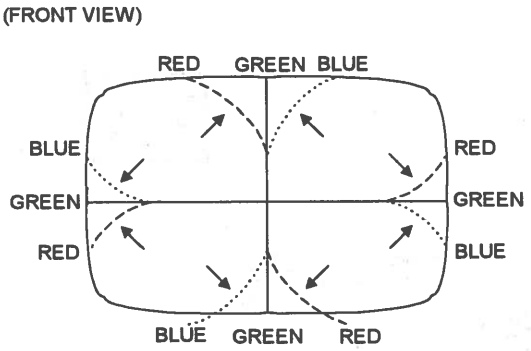


Fig.2

- After adjustment, fix the wedge at the original position.
  Fasten the retainer screw of the deflection yoke.
  Fix the 6 magnets with glue.

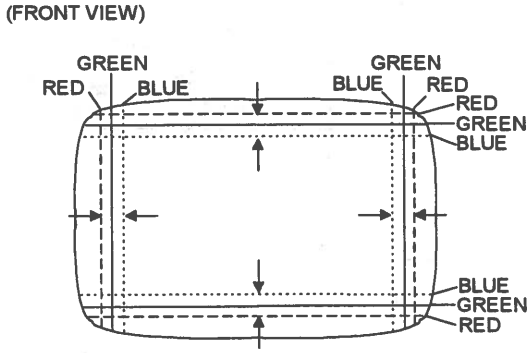


Fig.3

HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing the high voltage hold down circuit shown in Fig. 1.
This circuit shall be checked to operate correctly.

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

(1) Turn the POWER SW ON.

(2) As shown in Fig. 1, set the resistor (between [X] connector [1] & [3]).

(3) Make sure that the screen picture disappears.

(4) Temporarily unplug the power cord.

(5) Remove the resistor (between [X] connector [1] & [3]).

(6) Again plug the power cord, make sure that the normal picture is displayed on the screen.

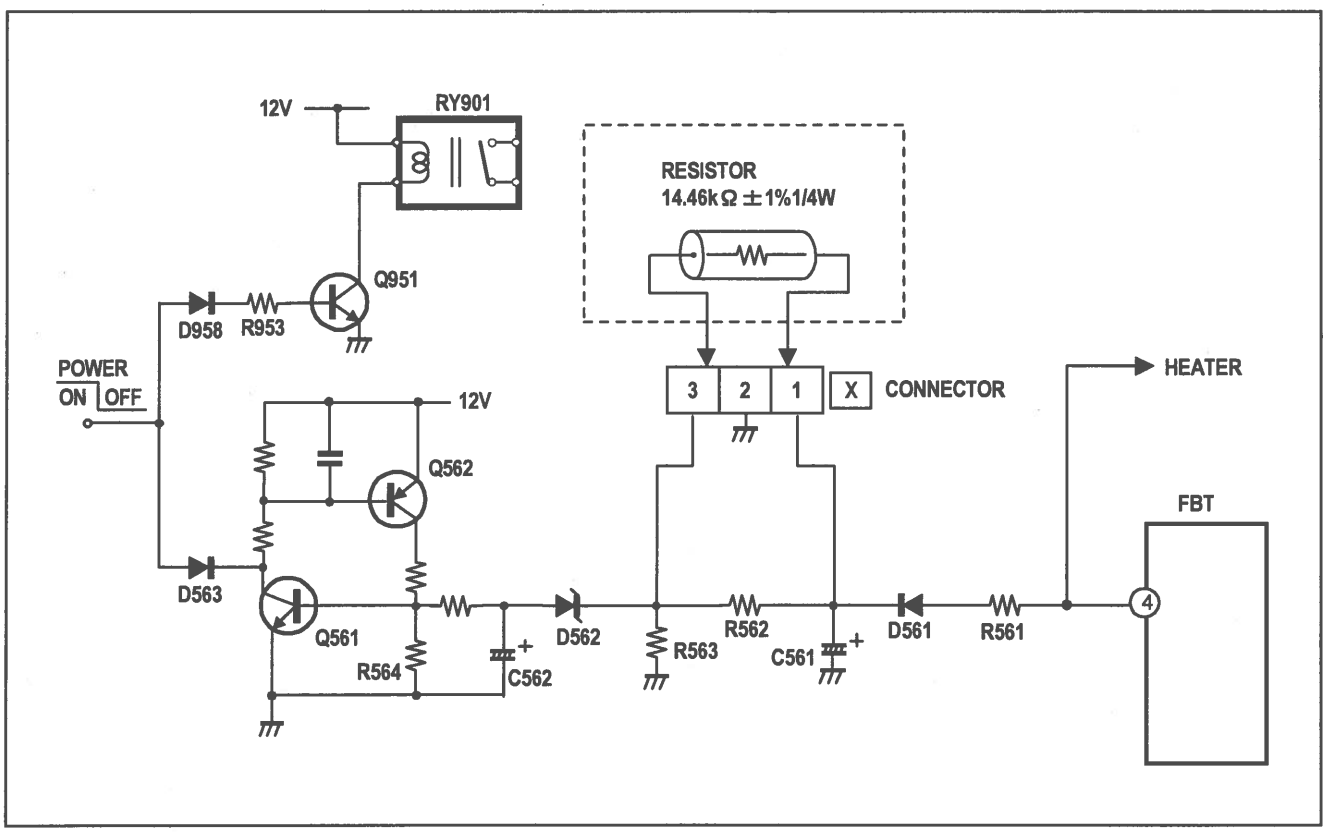


Fig. 1

SELF CHECK FUNCTIONS

1. Outline

This model includes a CRT (Cathode Ray Tube) NECK protector function which cuts off the power in the event of a malfunction and informs of the malfunction by flashing ON-TIMER LED.

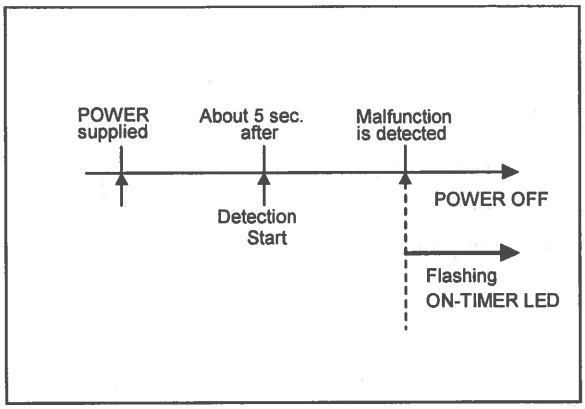
The malfunction is detected according to the state of the control line input connected to the main CPU.

2. Self check indicating function

The CRT NECK protector function begins detection about 5 seconds after power is supplied. In the event a malfunction is detected, the power is cutoff immediately. At this time, the ON-TIMER LED flashes.

[LED indication]

The ON-TIMER LED flashes at 0.5 second intervals.



3. Contents of Self check

Check item	Detected contents	Detection method	Abnormality state
CRT NECK protector (Also detected if the power supply line output from the HVT (High voltage Transformer) has shorted with the ground.	When the vertical circuit S-correction capacitor C427 is shorted, detect the potential drop of the C427, and prevent the burn damage to the CRT NECK. (Grounding of shorting of the power supply output from the HVT to the vertical circuit, and the small signal power supply is also detected.)	The main CPU detects at 1 second intervals. If NG is detected for more than 1 ms, a malfunction is interpreted.	During an abnormality the power is cutoff. The remote controller power key operation is not recognized and power off is maintained until the power cord is unplugged and reinserted.

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

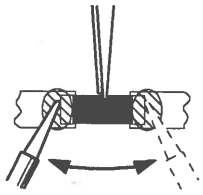
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

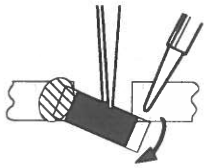
1. How to remove Chip parts

◆ **Resistors, capacitors, etc.**

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



(2) Shift with tweezers and remove the chip part.



◆ **Transistors, diodes, variable resistors, etc.**

(1) Apply extra solder to each lead.

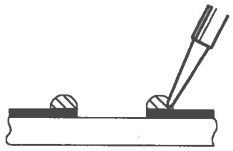
(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

Note : After removing the part, remove remaining solder from the pattern.

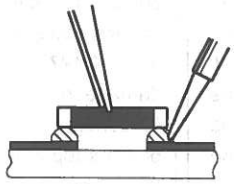
2. How to install Chip parts

◆ **Resistors, capacitors, etc.**

(1) Apply solder to the pattern as indicated in the figure.



(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

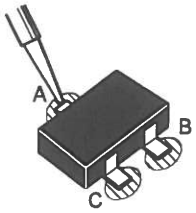


◆ **Transistors, diodes, variable resistors, etc.**

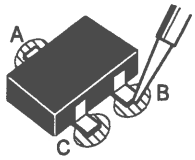
(1) Apply solder to the pattern as indicated in the figure.

(2) Grasp the chip part with tweezers and place it on the solder.

(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



C-13910(US&CA) C-13911(US&CA) STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal : Color bar signal
(2)Setting positions of each knob/button and variable resistor :Original setting position when shipped
(3)Internal resistance of tester :DC 20kΩ/V
(4)Oscilloscope sweeping time :H ⇒ 20μS/div
:V ⇒ 5mS/div
:Others ⇒ Sweeping time is specified
(5)Voltage values :All DC voltage values

＊Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

●In the PW board :R1209→R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

●Resistance value

No unit	:[Ω]
K	:[KΩ]
M	:[MΩ]

●Rated allowable power

No indication	:1/10[W]
Others	:As specified

●Type

No indication	:Carbon resistor
OMR	:Oxide metal film resistor
MFR	:Metal film resistor
MPR	:Metal plate resistor
UNFR	:Uninflammble resistor
FR	:Fusible resistor

*Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

●Capacitance value

1 or higher	:[pF]
less than 1	:[μF]

●Withstand voltage

No indication	:DC50[V]
Others	:DC withstand voltage [V]

*Electrolytic Capacitors
47/50[Example]:Capacitance value [μF]/withstand voltage[V]

●Type

No indication	:Ceramic capacitor
MY	:Mylar capacitor
MM	:Metalized mylar capacitor
PP	:Polypropylene capacitor
MPP	:Metalized polypropylene capacitor
MF	:Metalized film capacitor
TF	:Thin film capacitor
BP	:Bipolar electrolytic capacitor
TAN	:Tantalum capacitor

(3)Coils

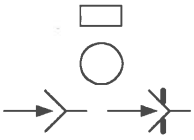
No unit	:[μH]
Others	:As specified

(4)Power Supply

*Respective voltage values are indicated

(5)Test point

(6)Connecting method



(7)Ground symbol

⊥ :LIVE side ground
⊥ :ISOLATED(NEUTRAL) side ground
⏚ :EARTH ground
▽ :DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⊥) side GND. Therefore, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

◇**Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

Jan. 1998 No.51363

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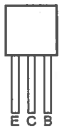
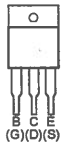
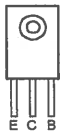
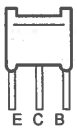
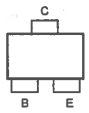
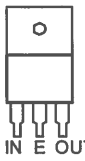
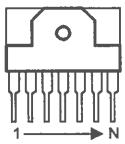
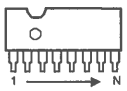
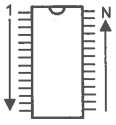
SEMICONDUCTOR SHAPES

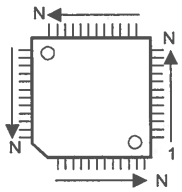
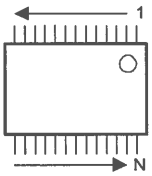
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

IC

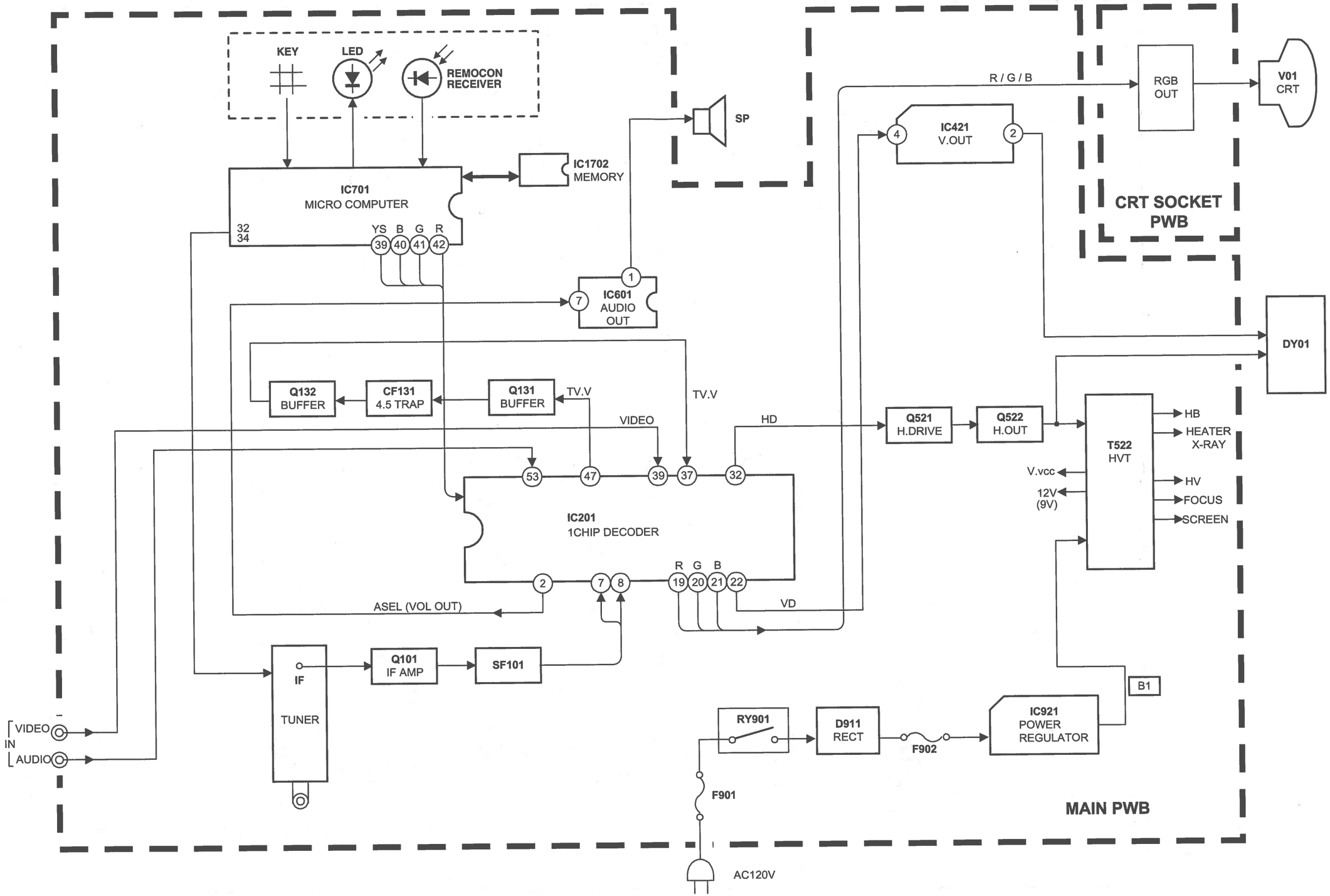
BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

TOP VIEW		
		

C-13910
C-13911

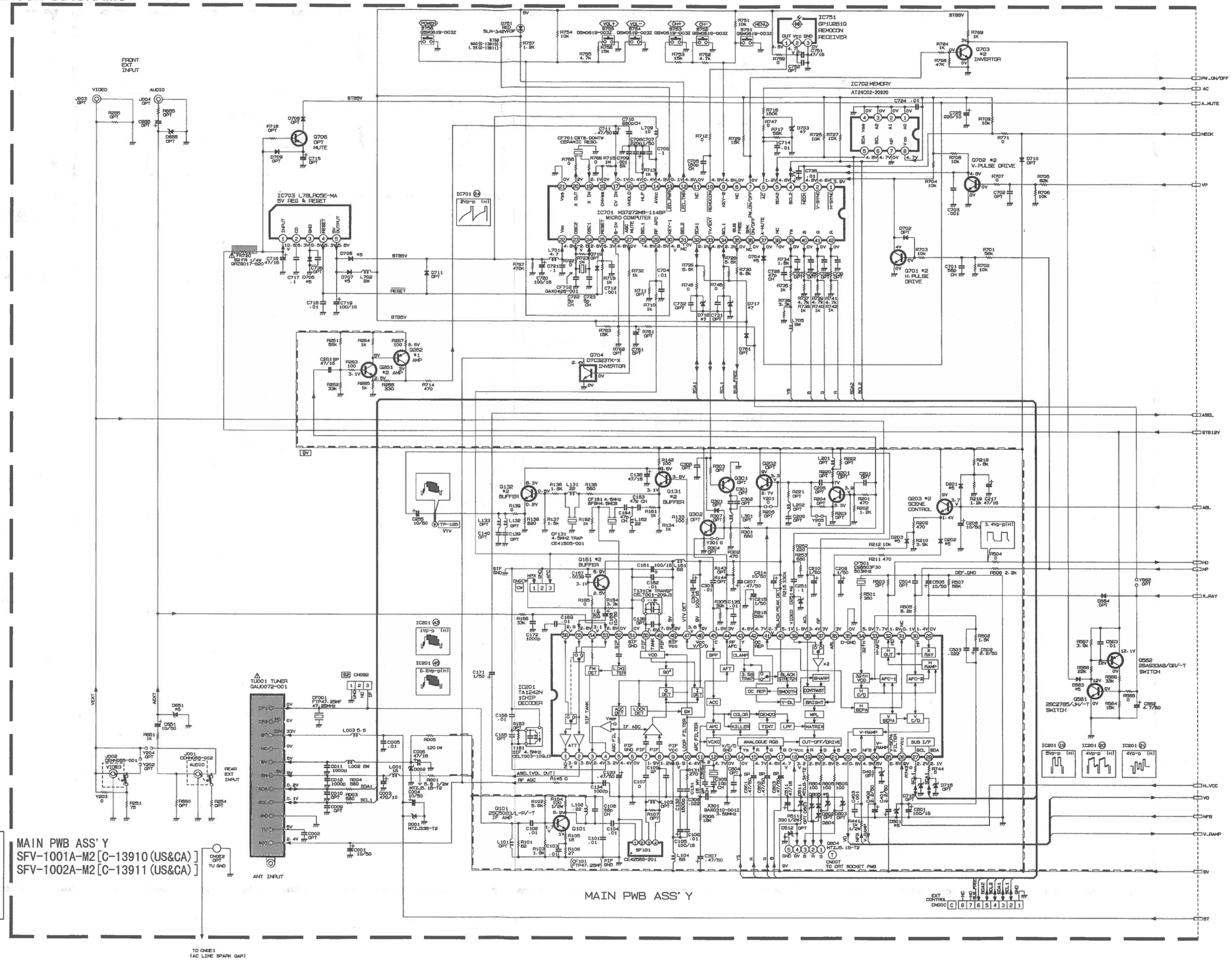
BLOCK DIAGRAM



C-13910
C-13911

CIRCUIT DIAGRAMS

MAIN PWB, CRT SOCKET PWB CIRCUIT DIAGRAMS


FRONT EXT INPUT
VIDEO
AUDIO
REAR EXT INPUT
IC703 L78L05SE-MA 5V REG & RESET
IC701 M37272M8-114SP MICRO COMPUTER
IC702 MEMORY AT24C02-20SQ
IC751 GP1U281Q REMOCON RECEIVER
IC201 TA1242N IC+I/O DECODER
TU001 TUNER DAU072-001
ANT INPUT
Q703 #2 INVERTER
Q705 MUTE
Q702 #2 V. PULSE DRIVE
Q701 #2 H. PULSE DRIVE
Q704 DTC323TK-X INVERTER
Q582 2SA933AS/GR/-T SWITCH
Q581 2SC2785/GR/-T SWITCH
Q132 #2 BUFFER
Q131 #2 BUFFER
Q151 #2 BUFFER
Q252 #1 AMP
Q251 #2 AMP
Q203 #2 SCENE CONTROL
Q101 2SC5063/L-P/-T IF AMP
D751 RED SLR-342VRSF
D701 GREEN GR2301F-B30
X301 GAX0310-001Z 4.5MHz
X201 GAX0428-001
CF701 CERAMIC RESO.
CF101 FTR47.25MF
CF201 FTR47.25MF
CF131 4.5MHz TRAP CE41505-001
CF181 4.5MHz SFB4.5MZB
SF101 CE42555-201
T201 T331CM TRANSF CEL1001-209JS
T151 IF 4.5MHz CELT003-109JS
T701 IF 4.5MHz GAX0428-001
L703 5.5
L002 BW
L001 15
L201 BW
L151 68
L101 68
L301 68
L701 47
L709 10
L702 BW
L704 47
L705 BW
L706 BW
L707 BW
L708 BW
L710 6800CH
L711 15 .47/50
L712 .47/50
L713 .47/50
L714 .47/50
L715 .47/50
L716 .47/50
L717 .47/50
L718 .47/50
L719 .47/50
L720 .47/50
L721 .47/50
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L724 .47/50
L725 .47/50
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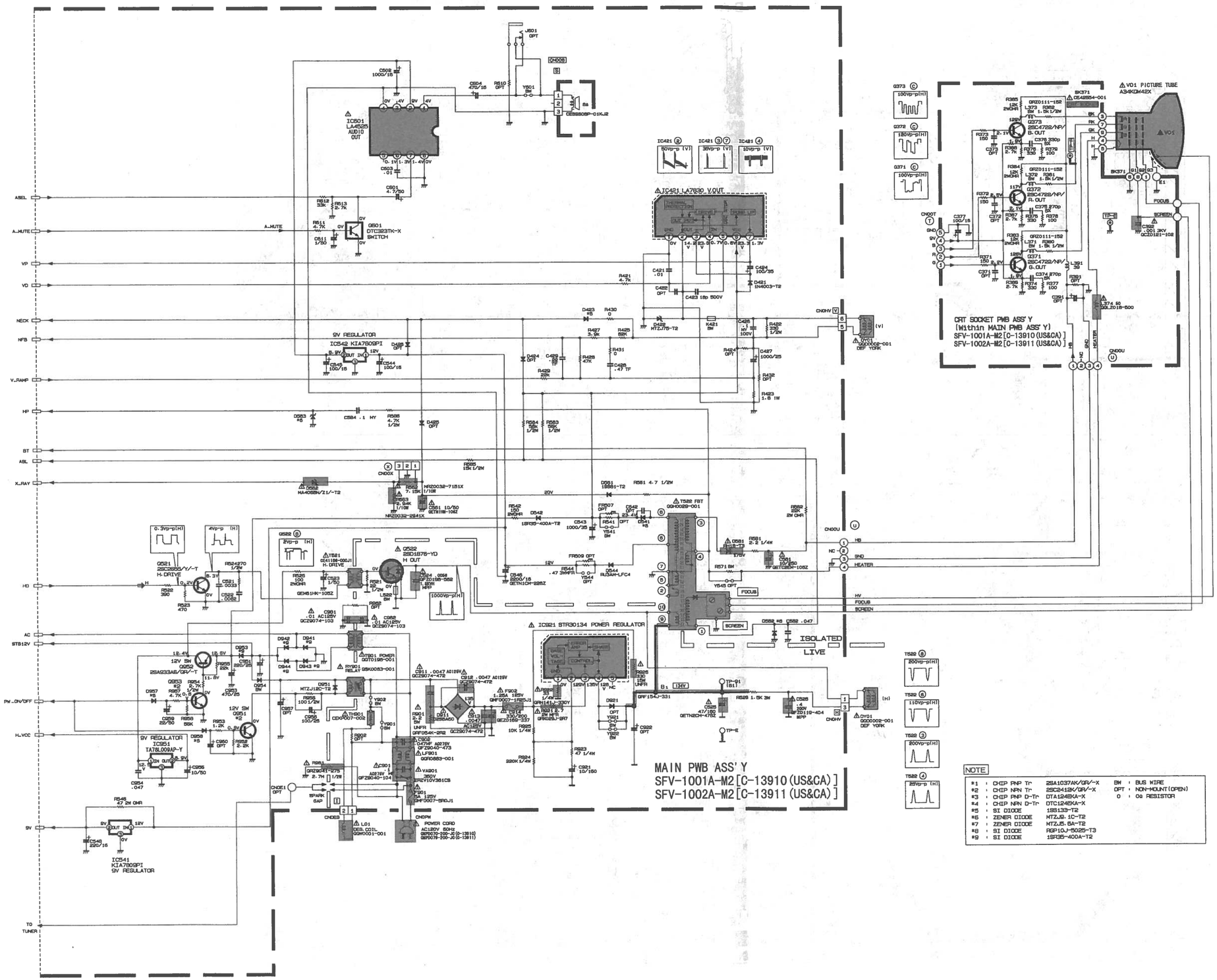
L730 .47/50
L731 .47/50

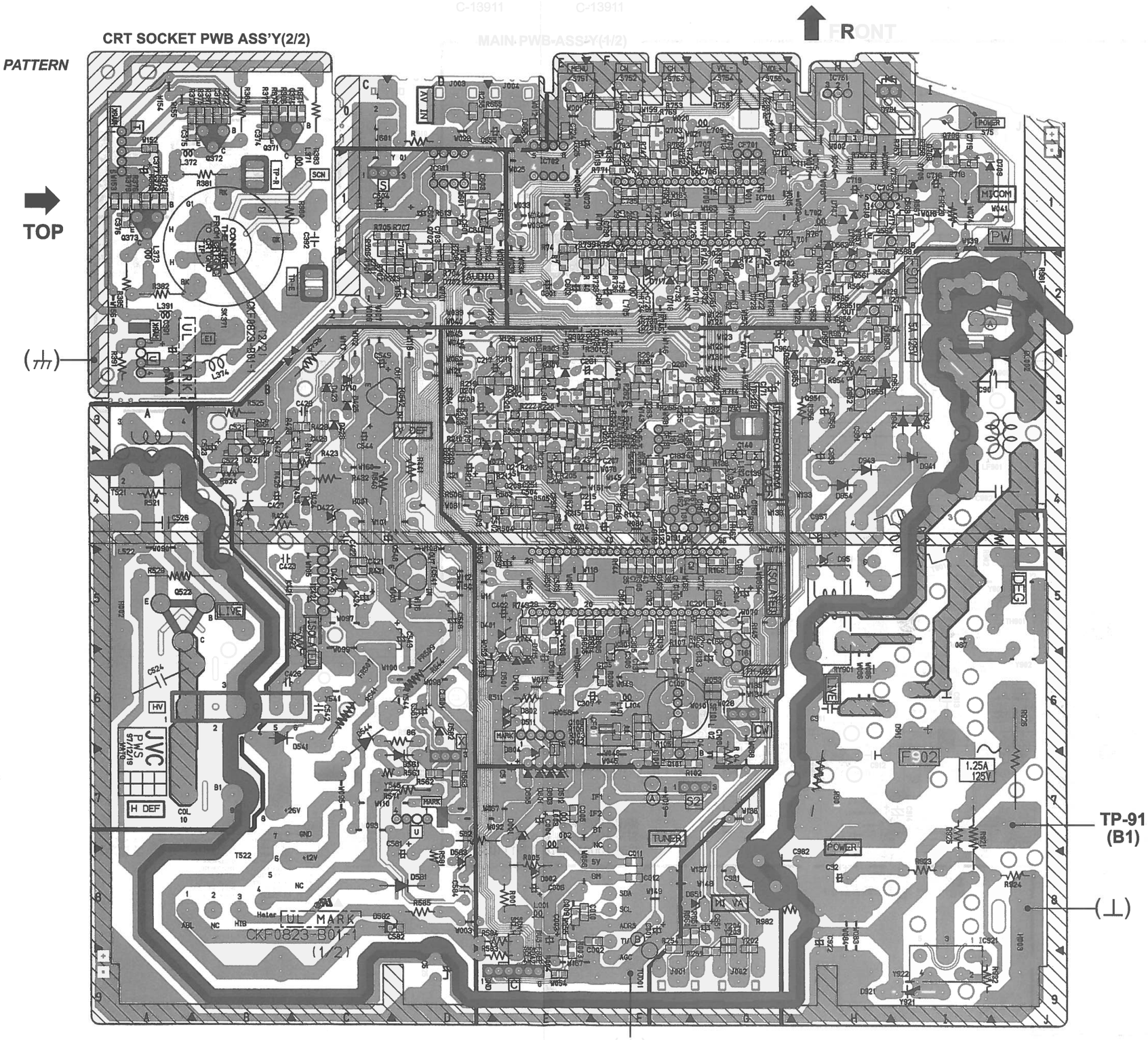
C-13910
C-13911



PATTERN DIAGRAMS

MAIN PWB, CRT SOCKET PWB PATTERN

CRT SOCKET PWB ASS'Y(2/2)



CHANNEL CHART [US]

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02 03 04 05 06		I
		VH	07 08 09 10 11 12 13		II
×	○	MID	A B	14 15	I
			C D E F G H I	16 17 18 19 20 21 22	II
		SUPER	J K L M N O P Q R S T U V W	23 24 25 26 27 28 29 30 31 32 33 34 35 36	
		HYPER	W+1 W+2 W+3 W+4 W+5 W+6 W+7 W+8 W+9 W+10 W+11	37 38 39 40 41 42 43 44 45 46 47	
			W+12 W+13 W+14 W+15 W+16 W+17 W+18 W+19 W+20 W+21 W+22 W+23 W+24 W+25 W+26 W+27 W+28	48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64	IV
		ULTRA	W+29 W+30 W+31 W+32 W+33 W+34	65 66 67 68 69 70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35 W+36 W+37 W+38 W+39 W+40 W+41 W+42 W+43 W+44 W+45 W+46 W+47 W+48 W+49 W+50 W+51 W+52 W+53 W+54 W+55 W+56 W+57 W+58 W+59 W+60 W+61 W+62 W+63 W+64 W+65 W+66 W+67 W+68 W+69 W+70 W+71 W+72 W+73 W+74 W+75 W+76 W+77 W+78 W+79 W+80 W+81 W+82 W+83 W+84	71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125	IV
		SUB MID	A-8 A-4 A-3 A-2 A-1	01 96 97 98 99	I
○	×	UHF	14 ∫ 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

CHANNEL CHART [CA]

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		I
			03		
			04		
			05		
			06		
		VH	07		II
			08		
			09		
			10		
			11		
			12		
			13		
×	○	MID	A	14	
			B	15	
			C	16	
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	III
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	
			W+30	66	IV
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
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			W+54	90	
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			W+56	92	
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			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	I
			A-4	96	
			A-3	97	II
			A-2	98	
			A-1	99	
○	×	UHF	14 ~ 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines —— in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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- MAIN PW BOARD ASS'Y (SFV-1002A-M2) [C-13911(US&CA)] (With CRT SOCKET PW BOARD) ····· 34

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■ PACKING PARTS LIST ····· 35

EXPLODED VIEW PARTS LIST

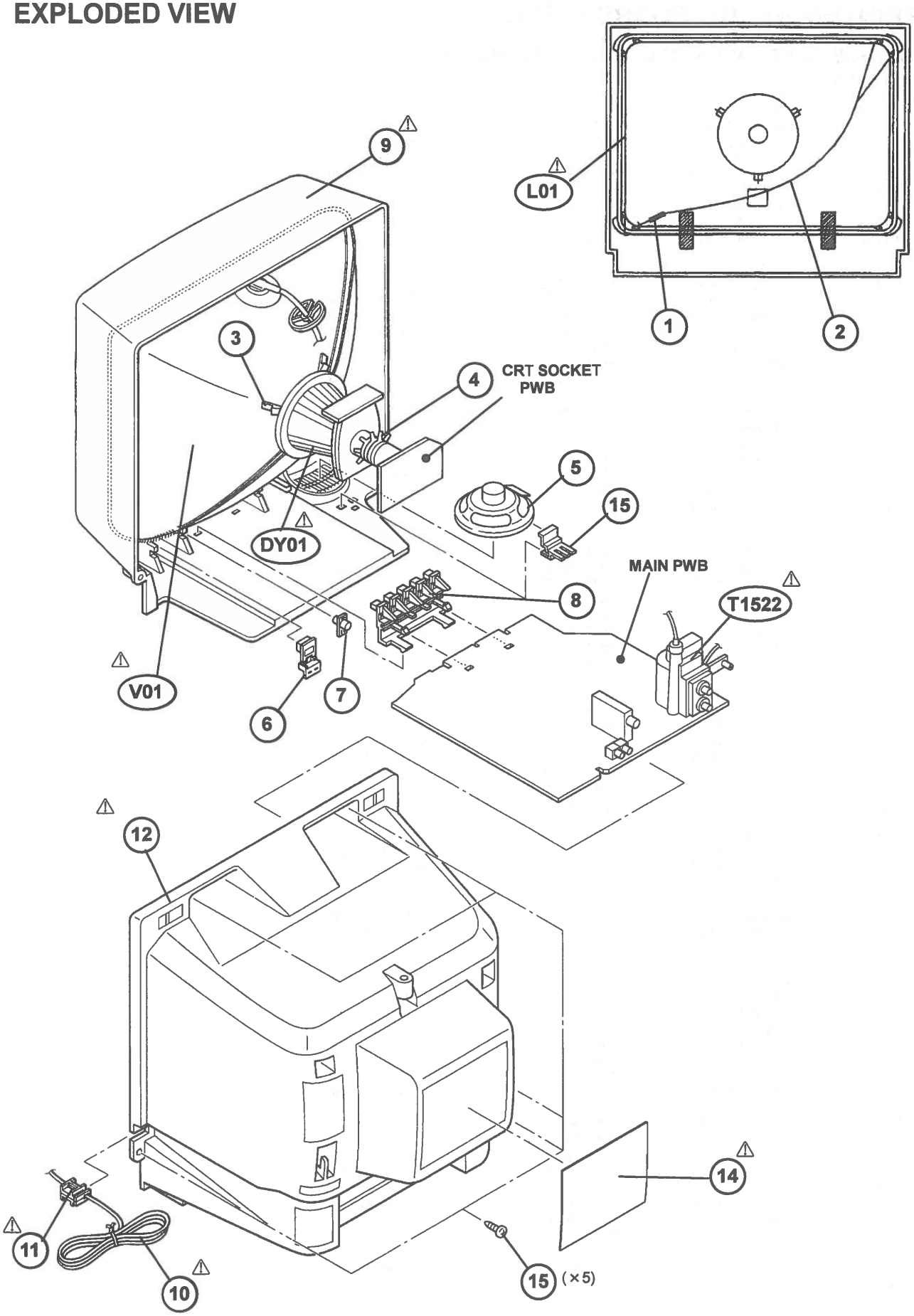
[C-13910(US&CA)] *Charcoal Model*

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	A34KQW42X	PICTURE TUBE		*
⚠	DY01	QQD0002-001	DEF YOKE		*
⚠	L01	QQW0001-001	DEG COIL		*
⚠	T1522	QQH0029-001	F B T		*
	1	A48457-4-S	SPRING		*
	2	CHGB0016-0A	BRAIDED WIRE		*
	3	CE42153-00AJ1	WEDGE ASSY	(×3)	*
	4	CE42511-00A	P.C.MAGNET		*
	5	CEBSS08P-01KJ2	SPEAKER	SP01	*
	6	LC30376-001A-A	POWER KNOB		*
	7	LC30191-001C-A	REMOCON LENS		*
	8	LC30189-001B-A	CONTROL KNOB		*
⚠	9	LC10055-001B-A	FRONT CABINET		*
⚠	10	QMPD070-200-JC	POWER CORD	Within MAIN PWB	*
⚠	11	LC20106-001B-A	POWER CORD CLAMP		*
⚠	12	LC10056-001A-A	REAR COVER		*
	13	GBSF4016Z	TAPPING SCREW	(×5)	*
⚠	14	CM22998-001-A	RATING LABEL	[C-13910(US)]	*
⚠	14	CM22999-001-A	RATING LABEL	[C-13910(CA)]	*
	15	LC30335-001A-A	SP HOLDER		*

[C-13911(US&CA)] *White Model*

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	V01	A34KQW42X	PICTURE TUBE		*
⚠	DY01	QQD0002-001	DEF YOKE		*
⚠	L01	QQW0001-001	DEG COIL		*
⚠	T1522	QQH0029-001	F B T		*
	1	A48457-4-S	SPRING		*
	2	CHGB0016-0A	BRAIDED WIRE		*
	3	CE42153-00AJ1	WEDGE ASSY	(×3)	*
	4	CE42511-00A	P.C.MAGNET		*
	5	CEBSS08P-01KJ2	SPEAKER	SP01	*
	6	LC30376-002A-A	POWER KNOB		*
	7	LC30191-001C-A	REMOCON LENS		*
	8	LC30189-002B-A	CONTROL KNOB		*
⚠	9	LC10055-002B-A	FRONT CABINET		*
⚠	10	QMPD079-200-JC	POWER CORD	Within MAIN PWB	*
⚠	11	LC20106-002A-A	POWER CORD CLAMP		*
⚠	12	LC10056-002A-A	REAR COVER		*
	13	GBSF4016Z	TAPPING SCREW	(×5)	*
⚠	14	CM22998-001-A	RATING LABEL	[C-13911(US)]	*
⚠	14	CM22999-001-A	RATING LABEL	[C-13911(CA)]	*
	15	LC30335-001A-A	SP HOLDER		*

EXPLODED VIEW



PRINTED WIRING BOARD PARTS LIST

MAIN P.W. BOARD ASS'Y (SFV-1001A-M2) [C-13910 (US&CA)]

⚠ Symbol No.	Part No.	Part Name	Description	Local
RESISTOR				
R1001	QRD121J-5R6SY	C R	5.6 Ω 1/2W J	*
R1003-04	QRSA08J-561YL	CHIP MG R	560 Ω 1/10W J	*
R1005	QRG019J-121S	OM R	120 Ω 1W J	*
R1101	QRSA08J-820YL	CHIP MG R	82 Ω 1/10W J	*
R1102	QRSA08J-562YL	CHIP MG R	5.6kΩ 1/10W J	*
R1103	QRSA08J-182YL	CHIP MG R	1.8kΩ 1/10W J	*
R1104	QRD121J-101SY	C R	100 Ω 1/2W J	*
R1105	QRSA08J-180YL	CHIP MG R	18 Ω 1/10W J	*
R1106	QRSA08J-270YL	CHIP MG R	27 Ω 1/10W J	*
R1131	QRSA08J-271YL	CHIP MG R	270 Ω 1/10W J	*
R1133	QRSA08J-101YL	CHIP MG R	100 Ω 1/10W J	*
R1134	QRSA08J-102YL	CHIP MG R	1kΩ 1/10W J	*
R1135	QRSA08J-221YL	CHIP MG R	220 Ω 1/10W J	*
R1136	QRSA08J-222YL	CHIP MG R	2.2kΩ 1/10W J	*
R1137	NRSA02J-152X	MG R	1.5kΩ 1/10W J	*
R1138	QRSA08J-821YL	CHIP MG R	820 Ω 1/10W J	*
R1139	QRSA08J-0R0YL	CHIP MG R	0 Ω 1/10W J	*
R1142	QRSA08J-101YL	CHIP MG R	100 Ω 1/10W J	
R1145	QRSA08J-0R0YL	CHIP MG R	0 Ω 1/10W J	*
R1161-62	QRSA08J-102YL	CHIP MG R	1kΩ 1/10W J	*
R1164	QRSA08J-332YL	CHIP MG R	3.3kΩ 1/10W J	*
R1165	QRSA08J-0R0YL	CHIP MG R	0 Ω 1/10W J	*
R1166	QRSA08J-333YL	CHIP MG R	33kΩ 1/10W J	*
R1201	QRSA08J-471YL	CHIP MG R	470 Ω 1/10W J	*
R1202	QRSA08J-122YL	CHIP MG R	1.2kΩ 1/10W J	*
R1209	QRSA08J-471YL	CHIP MG R	470 Ω 1/10W J	*
R1210	QRSA08J-392YL	CHIP MG R	3.9kΩ 1/10W J	*
R1211	QRSA08J-471YL	CHIP MG R	470 Ω 1/10W J	*
R1212	QRSA08J-103YL	CHIP MG R	10kΩ 1/10W J	*
R1215	QRSA08J-334YL	CHIP MG R	330kΩ 1/10W J	*
R1216	QRSA08J-563YL	CHIP MG R	56kΩ 1/10W J	*
R1218	QRSA08J-182YL	CHIP MG R	1.8kΩ 1/10W J	*
R1219	QRSA08J-122YL	CHIP MG R	1.2kΩ 1/10W J	*
R1251	QRSA08J-750YL	CHIP MG R	75 Ω 1/10W J	*
R1252	QRSA08J-221YL	CHIP MG R	220 Ω 1/10W J	*
R1253	QRSA08J-681YL	CHIP MG R	680 Ω 1/10W J	*
R1261	QRSA08J-563YL	CHIP MG R	56kΩ 1/10W J	*
R1262	QRSA08J-333YL	CHIP MG R	33kΩ 1/10W J	*
R1263	QRSA08J-101YL	CHIP MG R	100 Ω 1/10W J	*
R1264-65	QRSA08J-102YL	CHIP MG R	1kΩ 1/10W J	*
R1266	QRSA08J-331YL	CHIP MG R	330 Ω 1/10W J	*
R1267	QRSA08J-101YL	CHIP MG R	100 Ω 1/10W J	*
R1301	QRSA08J-681YL	CHIP MG R	680 Ω 1/10W J	*
R1302	QRSA08J-471YL	CHIP MG R	470 Ω 1/10W J	*
R1305	QRSA08J-393YL	CHIP MG R	39kΩ 1/10W J	*
R1306	QRSA08J-183YL	CHIP MG R	18kΩ 1/10W J	*
R1371-73	QRSA08J-151YL	CHIP MG R	150 Ω 1/10W J	*
R1374-76	QRSA08J-331YL	CHIP MG R	330 Ω 1/10W J	*
R1377-79	QRSA08J-101YL	CHIP MG R	100 Ω 1/10W J	*
R1380-82	QRZ0111-152	C R	1.5kΩ 1/2W J	*
R1383-85	QRG029J-123A	OM R	12kΩ 2W J	*
R1386-88	QRSA08J-272YL	CHIP MG R	2.7kΩ 1/10W J	*
R1421	QRSA08J-472YL	CHIP MG R	4.7kΩ 1/10W J	*
R1422	QRD121J-331SY	C R	330 Ω 1/2W J	*
R1423	QRX019J-1R8S	MF R	1.8 Ω 1W J	*
R1425	QRSA08J-823YL	CHIP MG R	82kΩ 1/10W J	*
R1427	QRSA08J-392YL	CHIP MG R	3.9kΩ 1/10W J	*
R1428	QRSA08J-473YL	CHIP MG R	47kΩ 1/10W J	*
R1429	QRSA08J-223YL	CHIP MG R	22kΩ 1/10W J	*
R1430-31	QRSA08J-0R0YL	CHIP MG R	0 Ω 1/10W J	*
R1441	QRD121J-102SY	C R	1kΩ 1/2W J	*
R1501	QRSA08J-361YL	CHIP MG R	360 Ω 1/10W J	*
R1502	QRSA08J-152YL	CHIP MG R	1.5kΩ 1/10W J	*
R1504	QRSA08J-0R0YL	CHIP MG R	0 Ω 1/10W J	*
R1505	QRSA08J-822YL	CHIP MG R	8.2kΩ 1/10W J	*
R1506	QRSA08J-222YL	CHIP MG R	2.2kΩ 1/10W J	*

⚠	Symbol No.	Part No.	Part Name	Description			Local
	RESISTOR						
	R1507	QRSA08J-563YL	CHIP MG R	56kΩ	1/10W	J	*
	R1511	QRD121J-391SY	C R	390 Ω	1/2W	J	*
	R1521	QRD121J-220SY	C R	22 Ω	1/2W	J	*
	R1522	QRSA08J-391YL	CHIP MG R	390 Ω	1/10W	J	*
	R1523	QRSA08J-471YL	CHIP MG R	470 Ω	1/10W	J	*
	R1524	QRD121J-271SY	C R	270 Ω	1/2W	J	*
	R1525	QRG029J-101A	OM R	100 Ω	2W	J	*
	R1526	QRG039J-152A	OM R	1.5kΩ	3W	J	*
	R1542	QRG029J-151A	OM R	150 Ω	2W	J	*
	R1546	QRG029J-470A	OM R	47 Ω	2W	J	*
	R1561	QRD12CJ-4R7SX	C R	4.7 Ω	1/2W	J	*
⚠	R1562	NRZ0032-7151X	CHIP MF R	7.15kΩ	1/10W		
⚠	R1563	NRZ0032-2941X	CHIP MF R	2.94kΩ	1/10W		
	R1564	QRSA08J-153YL	CHIP MG R	15kΩ	1/10W	J	*
	R1565	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1566	QRSA08J-333YL	CHIP MG R	33kΩ	1/10W	J	*
	R1567	QRSA08J-392YL	CHIP MG R	3.9kΩ	1/10W	J	*
	R1568	QRSA08J-223YL	CHIP MG R	22kΩ	1/10W	J	*
	R1581	QRD14CJ-2R2SX	C R	2.2 Ω	1/4W	J	*
	R1582	QRG029J-223A	OM R	22kΩ	2W	J	*
	R1583-84	QRD121J-563SY	C R	56kΩ	1/2W	J	*
	R1585	QRD121J-153SY	C R	15kΩ	1/2W	J	*
	R1586	QRD121J-472SY	C R	4.7kΩ	1/2W	J	*
	R1611	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1612	NRSA02J-333X	MG R	33kΩ	1/10W	J	*
	R1613	NRSA02J-272X	MG R	2.7kΩ	1/10W	J	*
	R1651	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1701	QRSA08J-563YL	CHIP MG R	56kΩ	1/10W	J	*
	R1702-04	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1705	QRSA08J-823YL	CHIP MG R	82kΩ	1/10W	J	*
	R1706	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1707	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1708-09	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1710	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1712	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1713	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1714	QRSA08J-471YL	CHIP MG R	470 Ω	1/10W	J	*
	R1715	QRSA08J-105YL	CHIP MG R	1MΩ	1/10W	J	*
	R1716	QRSA08J-154YL	CHIP MG R	150kΩ	1/10W	J	*
	R1717	QRSA08J-563YL	CHIP MG R	56kΩ	1/10W	J	*
	R1719	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1722	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1723	QRSA08J-105YL	CHIP MG R	1MΩ	1/10W	J	*
	R1724	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1725	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1726	QRSA08J-562YL	CHIP MG R	5.6kΩ	1/10W	J	*
	R1727	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1728	QRSA08J-562YL	CHIP MG R	5.6kΩ	1/10W	J	*
	R1729	QRSA08J-153YL	CHIP MG R	15kΩ	1/10W	J	*
	R1730	QRSA08J-682YL	CHIP MG R	6.8kΩ	1/10W	J	*
	R1732	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1734	QRSA08J-182YL	CHIP MG R	1.8kΩ	1/10W	J	*
	R1735	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1736	QRSA08J-332YL	CHIP MG R	3.3kΩ	1/10W	J	*
	R1737	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1738	NRSA02J-821X	MG R	820Ω	1/10W	J	*
	R1739	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1740	NRSA02J-821X	MG R	820Ω	1/10W	J	*
	R1741	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1742	NRSA02J-821X	MG R	820Ω	1/10W	J	*
	R1743-47	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1751	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1752	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1753	QRSA08J-153YL	CHIP MG R	15kΩ	1/10W	J	*
	R1754	QRSA08J-103YL	CHIP MG R	10kΩ	1/10W	J	*
	R1755	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1756	QRSA08J-153YL	CHIP MG R	15kΩ	1/10W	J	*
	R1757	QRSA08J-122YL	CHIP MG R	1.2kΩ	1/10W	J	*
	R1758	QRSA08J-681YL	CHIP MG R	680 Ω	1/10W	J	*

⚠	Symbol No.	Part No.	Part Name	Description			Local
	RESISTOR						
	R1759	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1763	QRSA08J-153YL	CHIP MG R	15kΩ	1/10W	J	*
	R1765-66	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1768	QRSA08J-473YL	CHIP MG R	47kΩ	1/10W	J	*
	R1769	QRSA08J-102YL	CHIP MG R	1kΩ	1/10W	J	*
	R1771	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	R1804-06	QRSA08J-101YL	CHIP MG R	100 Ω	1/10W	J	*
⚠	R1901	QRF054K-2R2	UNF R	2.2 Ω	5W	K	*
⚠	R1921	QRX029J-2R7	MF R	2.7 Ω	2W	J	*
⚠	R1922	QRN141J-330Y	C R	33 Ω	1/4W	J	*
	R1923	QRD141J-470Y	C R	47 Ω	1/4W	J	*
	R1924	QRD141J-224Y	C R	220kΩ	1/4W	J	*
	R1925	QRD141J-103Y	C R	10kΩ	1/4W	J	*
⚠	R1926	QRF154J-331	UNF R	330 Ω	15W	J	*
	R1952	QRSA08J-222YL	CHIP MG R	2.2kΩ	1/10W	J	*
	R1953	QRSA08J-122YL	CHIP MG R	1.2kΩ	1/10W	J	*
	R1954	QRD121J-272SY	C R	2.7kΩ	1/2W	J	*
	R1955	QRSA08J-223YL	CHIP MG R	22kΩ	1/10W	J	*
	R1956	QRD121J-101SY	C R	100 Ω	1/2W	J	*
	R1957	QRSA08J-472YL	CHIP MG R	4.7kΩ	1/10W	J	*
	R1958	QRSA08J-563YL	CHIP MG R	56kΩ	1/10W	J	*
⚠	R1981	QRZ9041-275	C R	2.7MΩ	1/2W	K	*
	CAPACITOR						
	C1001	QETN1HM-106Z	E CAP.	10μF	50V	M	*
	C1003	QETN1AM-477Z	E CAP.	470μF	10V	M	*
	C1004	QETN1HM-106Z	E CAP.	10μF	50V	M	*
	C1005	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1006	QETN1CM-476Z	E CAP.	47μF	16V	M	*
	C1011-12	NCB21HK-102AY	CHIP CAP.	1000pF	50V	K	*
	C1101-04	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1105	QETN1CM-107Z	E CAP.	100μF	16V	M	*
	C1106	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1107	QRSA08J-0R0YL	CHIP MG R	0 Ω	1/10W	J	*
	C1109	NCT03CH-5R0AY	CHIP CAP.	5.0pF	50V	J	*
	C1131	QFV71HJ-154MZ	TF CAP.	0.15μF	50V	J	*
	C1132	NCB21HK-152AY	CHIP CAP.	1500pF	50V	K	*
	C1133	QETN1HM-474Z	E CAP.	0.47μF	50V	M	*
	C1134	NCB21HK-102AY	CHIP CAP.	1000pF	50V	K	*
	C1135	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1138	QETN1CM-476Z	E CAP.	47μF	16V	M	*
	C1161	QETN1CM-107Z	E CAP.	100μF	16V	M	*
	C1162	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1163-64	NCT03CH-470AY	CHIP CAP.	47pF	50V	J	*
	C1166	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1167	NCB21HK-392AY	CHIP CAP.	3900pF	50V	K	*
	C1168	QETN1HM-106Z	E CAP.	10μF	50V	M	*
	C1169	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1171	QETN1HM-105Z	E CAP.	1μF	50V	M	*
	C1172	NCB21HK-102AY	CHIP CAP.	1000pF	50V	K	*
	C1207	QETN1HM-474Z	E CAP.	0.47μF	50V	M	*
	C1208	QETN1HM-106Z	E CAP.	10μF	50V	M	*
	C1209-10	QETN1HM-105Z	E CAP.	1μF	50V	M	*
	C1214	QETN1HM-106Z	E CAP.	10μF	50V	M	*
	C1215	QETN1HM-105Z	E CAP.	1μF	50V	M	*
	C1217	QETN1CM-476Z	E CAP.	47μF	16V	M	*
	C1251	NCB21HK-104X	CHIP CAP.	0.1μF	50V	K	*
	C1255	QETN1HM-106Z	E CAP.	10μF	50V	M	*
	C1261	QENC1CM-476Z	BP E CAP.	47μF	16V	M	*
	C1303	NCB21HK-103AY	CHIP CAP.	0.01μF	50V	K	*
	C1304	QETN1CM-107Z	E CAP.	100μF	16V	M	*
	C1305	NCT03CH-100AY	CHIP CAP.	10pF	50V	J	*
	C1306	NCB21HK-223AY	CHIP CAP.	0.022μF	50V	K	*
	C1307	QETN1HM-474Z	E CAP.	0.47μF	50V	M	*
	C1374-75	NCS21HJ-271AY	CER. CAPACITOR-M	270pF	50V	J	*
	C1376	NCS21HJ-331AY	CER. CAPACITOR-M	330pF	50V	J	*
	C1377	QETN1CM-107Z	E CAP.	100μF	16V	M	*
⚠	C1392	QCZ0121-102	C CAP.	1000pF	3kV	Z	*
	C1401	QETN1HM-225Z	E CAP.	2.2μF	50V	M	*
	C1402	QBHC1CK-225Z	TAN. CAP.	2.2μF	16V	K	

⚠	Symbol No.	Part No.	Part Name	Description			Local
	CAPACITOR						
	C1403	NCB21HK-102AY	CHIP CAP.	1000 p F	50V	K	*
	C1421	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1423	QCS32HJ-180RZ	CH C CAP.	18 p F	500V	J	*
	C1424	QETN1VM-107Z	E CAP.	100 μ F	35V	M	*
	C1426	QCY32HK-102RZ	CH C CAP.	1000 p F	500V	K	*
	C1427	QETN1EM-108Z	E CAP.	1000 μ F	25V	M	*
	C1428	QFVC1HJ-474Z	TF CAP.	0.47 μ F	50V	J	*
	C1429	QFVC1HJ-224Z	TF CAP.	0.22 μ F	50V	J	*
	C1501	QETN1CM-107Z	E CAP.	100 μ F	16V	M	*
	C1502	QETN1HM-225Z	E CAP.	2.2 μ F	50V	M	*
	C1503	NCB21HK-223AY	CHIP CAP.	0.022 μ F	50V	K	*
	C1505	QETN1HM-106Z	E CAP.	10 μ F	50V	M	*
	C1511	QETN1CM-476Z	E CAP.	47 μ F	16V	M	*
	C1521	NCB21HK-332AY	CHIP CAP.	3300 p F	50V	K	*
	C1522	NCB21HK-822AY	CHIP CAP.	8200 p F	50V	K	*
	C1523	QEM61HK-105MZ	E CAP.	1 μ F	50V	K	
⚠	C1524	QFZ0198-562	MPP CAP.	5600 p F	1.5kVH	±3%	*
⚠	C1525	QETN2CM-476Z	E CAP.	47 μ F	160V	M	*
⚠	C1526	QFZ0119-404	MPP CAP.	0.4 μ F	200V	±3%	*
	C1543	QETC1VM-108Z	E CAP.	1000 μ F	35V	M	*
	C1544-45	QETN1CM-107Z	E CAP.	100 μ F	16V	M	*
	C1546	QETN1CM-228Z	E CAP.	2200 μ F	16V	M	*
	C1548	QETN1CM-227Z	E CAP.	220 μ F	16V	M	*
⚠	C1561	QETN1HM-106Z	E CAP.	10 μ F	50V	M	*
	C1562	QETN1HM-475Z	E CAP.	4.7 μ F	50V	M	*
	C1563	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
⚠	C1581	QETC2EM-106Z	E CAP.	10 μ F	250V	M	*
	C1582	NCB21HK-473AY	CHIP CAP.	0.047 μ F	50V	K	*
	C1584	QFLC2AJ-104MZ	M CAP.	0.1 μ F	100V	J	*
	C1601	QETN1HM-475Z	E CAP.	4.7 μ F	50V	M	*
	C1602	QETN1CM-108Z	E CAP.	1000 μ F	16V	M	*
	C1603	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1604	QETN1CM-477Z	E CAP.	470 μ F	16V	M	*
	C1611	QETN1HM-105Z	E CAP.	1 μ F	50V	M	*
	C1651	QETN1HM-106Z	E CAP.	10 μ F	50V	M	*
	C1701	NCT03CH-560AY	CHIP CAP.	56 p F	50V	J	*
	C1703	NCB21HK-102AY	CHIP CAP.	1000 p F	50V	K	*
	C1704	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1705	NCT03CH-151AY	CHIP CAP.	150 p F	50V	J	*
	C1706	NCB21HK-104X	CHIP CAP.	0.1 μ F	50V	K	*
	C1707	QETN1HM-105Z	E CAP.	1 μ F	50V	M	*
	C1708	NCS21HJ-221AY	CER. CAPACITOR-M	220 p F	50V	J	*
	C1709	NCS21HJ-102AY	CER. CAPACITOR-M	1000 p F	50V	J	*
	C1710	NCT03CH-681AY	CHIP CAP.	680 p F	50V	J	*
	C1711	QETN1HM-474Z	E CAP.	0.47 μ F	50V	M	*
	C1712	NCB21HK-102AY	CHIP CAP.	1000 p F	50V	K	*
	C1714	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1716	QETN1CM-476Z	E CAP.	47 μ F	16V	M	*
	C1717	NCB21HK-104X	CHIP CAP.	0.1 μ F	50V	K	*
	C1718	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1719-20	QETN1CM-107Z	E CAP.	100 μ F	16V	M	*
	C1721	NCB21HK-104X	CHIP CAP.	0.1 μ F	50V	K	*
	C1722-23	NCT03CH-5R0AY	CHIP CAP.	5.0 p F	50V	J	*
	C1724	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1725	QETN1AM-227Z	E CAP.	220 μ F	10V	M	*
	C1726	NCT03CH-470AY	CHIP CAP.	47 p F	50V	J	*
	C1735	NCB21HK-103AY	CHIP CAP.	0.01 μ F	50V	K	*
	C1751	QETN1CM-476Z	E CAP.	47 μ F	16V	M	*
	C1801-03	QENC1HM-474Z	BP E CAP.	0.47 μ F	50V	M	*
⚠	C1901	QFZ9040-104	MF CAP.	0.1 μ F	AC275V	M	*
⚠	C1902	QFZ9040-473	MF CAP.	0.047 μ F	AC275V	M	*
⚠	C1911	QCZ9074-472	C CAP.	4700 p F	AC125V	Z	*
⚠	C1912	QCZ9074-472	C CAP.	4700 p F	AC125V	Z	*
⚠	C1913	QCZ9074-472	C CAP.	4700 p F	AC125V	Z	*
⚠	C1914	QEZ0169-337	E CAP.	330 μ F	200V	M	*
	C1921	QETN2CM-106Z	E CAP.	10 μ F	160V	M	*
	C1951	QETN1EM-227Z	E CAP.	220 μ F	25V	M	*
	C1953	QETN1EM-477Z	E CAP.	470 μ F	25V	M	*
	C1954	NCB21HK-473AY	CHIP CAP.	0.047 μ F	50V	K	*

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C1956	QETC1HM-106Z	E CAP.	10μF 50V M	*
	C1958	QETC1EM-107Z	E CAP.	100μF 25V M	
	C1959	QETN1HM-226Z	E CAP.	22μF 50V M	*
⚠	C1981	QCZ9074-103	C CAP.	0.01μFAC125V Z	*
⚠	C1982	QCZ9074-103	C CAP.	0.01μFAC125V Z	*
	TRANSFORMER				
	T1131	CELT001-209J3	C.WAVE TRANSF.		*
	T1161	CELT003-109J3	S.I.F.TRANSF.		*
⚠	T1521	CE41106-00CJ1	DRIVE TRANSF.		*
⚠	T1522	QQH0029-001	F B T		*
⚠	T1901	QQT0198-001	POWER TRANSF		*
	COIL				
	L1001	CELP059-150Z	PEAKING COIL	15μH	*
	L1003	CELP059-5R6Z	PEAKING COIL	5.6μH	*
	L1102	CELP041-R22	PEAKING COIL	0.22μH	*
	L1104	CELP059-680Z	PEAKING COIL	68μH	*
	L1131	CELP059-220Z	PEAKING COIL	22μH	*
	L1161	CELP059-680Z	PEAKING COIL	68μH	*
	L1162	CELP059-220Z	PEAKING COIL	22μH	*
⚠	L1374	QQLZ018-500	PEAKING COIL	50μH	*
	L1391	CELP059-390Z	PEAKING COIL	39μH	*
	L1701	CELP059-4R7Z	PEAKING COIL	4.7μH	*
	L1709	CELP059-100Z	PEAKING COIL	10μH	*
	DIODE				
	D1001	MTZJ33B-T2	ZENER DIODE		*
	D1002	MTZJ5.1B-T2	ZENER DIODE		*
	D1201-03	1SS133-T2	SI.DIODE		*
	D1251	MTZJ9.1C-T2	ZENER DIODE		*
	D1421	1N4003-T2	SI.DIODE		*
	D1422	MTZJ75-T2	ZENER DIODE		*
	D1423	1SS133-T2	SI.DIODE		*
	D1501	MTZJ9.1C-T2	ZENER DIODE		*
	D1511	MTZJ3.3A-T2	ZENER DIODE		*
	D1541	RGP10J-5025-T3	SI.DIODE		*
	D1542	1SR35-400A-T2	SI.DIODE		
	D1544	RU3AM-LFC4	SI.DIODE		*
	D1561	1SS81-T2	SI.DIODE		*
⚠	D1562	MA4068N/Z1/-T2	ZENER DIODE		
	D1563	1SS133-T2	SI.DIODE		*
⚠	D1581	RH1S-T3	SI.DIODE		*
	D1582	RGP10J-5025-T3	SI.DIODE		*
	D1583	MTZJ9.1C-T2	ZENER DIODE		*
	D1651	MTZJ9.1C-T2	ZENER DIODE		*
	D1703	MTZJ5.6A-T2	ZENER DIODE		*
	D1704-07	1SS133-T2	SI.DIODE		*
	D1717-18	MTZJ5.6A-T2	ZENER DIODE		*
	D1751	SLR-342VR3F	L.E.D.		*
⚠	D1911	D2SBA60	BRIDGE DIODE		*
	D1941-44	1SR35-400A-T2	SI.DIODE		
	D1951	MTZJ12C-T2	ZENER DIODE		*
	D1953	1SR35-400A-T2	SI.DIODE		
	D1957-58	1SS133-T2	SI.DIODE		*
	TRANSISTOR				
	Q1101	2SC5083/L-P/-T	SI.TRANSISTOR		*
	Q1131-32	2SC2412K/QR/-X	SI.TRANSISTOR		*
	Q1161	2SC2412K/QR/-X	SI.TRANSISTOR		*
	Q1203	2SC2412K/QR/-X	SI.TRANSISTOR		*
	Q1261	2SC2412K/QR/-X	SI.TRANSISTOR		*
	Q1262	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1371-73	2SC4722/NP/	SI.TRANSISTOR		*
	Q1521	2SC2655/Y/-T	SI.TRANSISTOR		*
⚠	Q1522	2SD1876-YD	SI.TRANSISTOR	H.OUT	*
	Q1561	2SC2785/JH/-T	SI.TRANSISTOR		*
	Q1562	2SA933AS/QR/-T	SI.TRANSISTOR		*
	Q1601	DTC323TK-X	DIGI.TRANSISTOR		*
	Q1701-03	2SC2412K/QR/-X	SI.TRANSISTOR		*
	Q1704	DTC323TK-X	DIGI.TRANSISTOR		*

⚠	Symbol No.	Part No.	Part Name	Description	Local
	TRANSISTOR				
	Q1951	2SC2412K/QR/-X	SI.TRANSISTOR		*
	Q1952	2SA933AS/QR/-T	SI.TRANSISTOR		*
	Q1953	2SC2412K/QR/-X	SI.TRANSISTOR		*
	IC				
	IC1201	TA1242N	I.C(MONO-ANA)		*
⚠	IC1421	LA7830	I.C(MONO-ANA)		*
	IC1541-42	KIA7809PI	I.C(MONO-ANA)		*
⚠	IC1601	LA4525	I.C.		
	IC1701	M37272M8-114SP	I C		
	IC1702	AT24C02-20920	I.C.	(SERVICE)	
	IC1703	L78LR05E-MA	I.C(MONO-ANA)		*
	IC1751	GP1U281Q	IFR DETECT UNIT		*
⚠	IC1921	STR30134	I.C.		
	IC1951	TA78L009AP-Y	I.C(MONO-ANA)		
	OTHERS				
		LC30190-001B-A	LED HOLDER		*
	CF1001	FTP47.25MF	CERAMIC FILTER		*
	CF1131	CE41505-001	CERAMIC FILTER		*
	CF1161	SFSH4.5MCB	CERAMIC FILTER		*
	CF1501	CSB503F30-T2	CER.RESONATOR		*
	CF1701	CST8.00MTW	CER.RESONATOR		*
	CF1702	QAX0428-001	C RESONATOR		
⚠	CN10PW	QMPD070-200-JC	POWER CORD	(Charcoal type)	*
⚠	F1901	QMF0007-5R0J1	FUSE	5A	*
⚠	F1902	QMF0007-1R25J1	FUSE	1.25A	*
	FC1901-02	CEMG002-001Z	FUSE CLIP	(×2)	*
⚠	FR1720	QRZ9017-820	F R	82 Ω 1/4W J	*
	J1001	CEMN065-002	PIN JACK		*
	J1002	CEMN065-001	PIN JACK		*
⚠	LF1901	QQR0883-001	LINE FILTER		
⚠	RY1901	QSK0083-001	RELAY		*
	S1751-56	QSW0619-003Z	PUSH SWITCH		*
	SF1101	CE42589-201	SAW FILTER		
⚠	SK1371	CE42554-001	CRT SOCKET		*
⚠	TH1901	CEKP007-002	P.THERMISTOR		*
⚠	TU1001	QAU0072-001	TUNER		*
⚠	VA1901	ERZV10V361CS	VARISTOR		*
	W1002	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1011	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1012	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1028	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1035	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1053-54	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1059	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1064	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1073	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1078	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1118	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1152-53	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1159	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	W1163-67	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	X1301	QAX0310-001Z	CRYSTAL		*
	Y1201-05	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*
	Y1301	QRSA08J-0ROYL	CHIP MG R	0 Ω 1/10W J	*

MAIN P.W. BOARD ASS'Y (SFV-1002A-M2) [C-13911 (US&CA)]

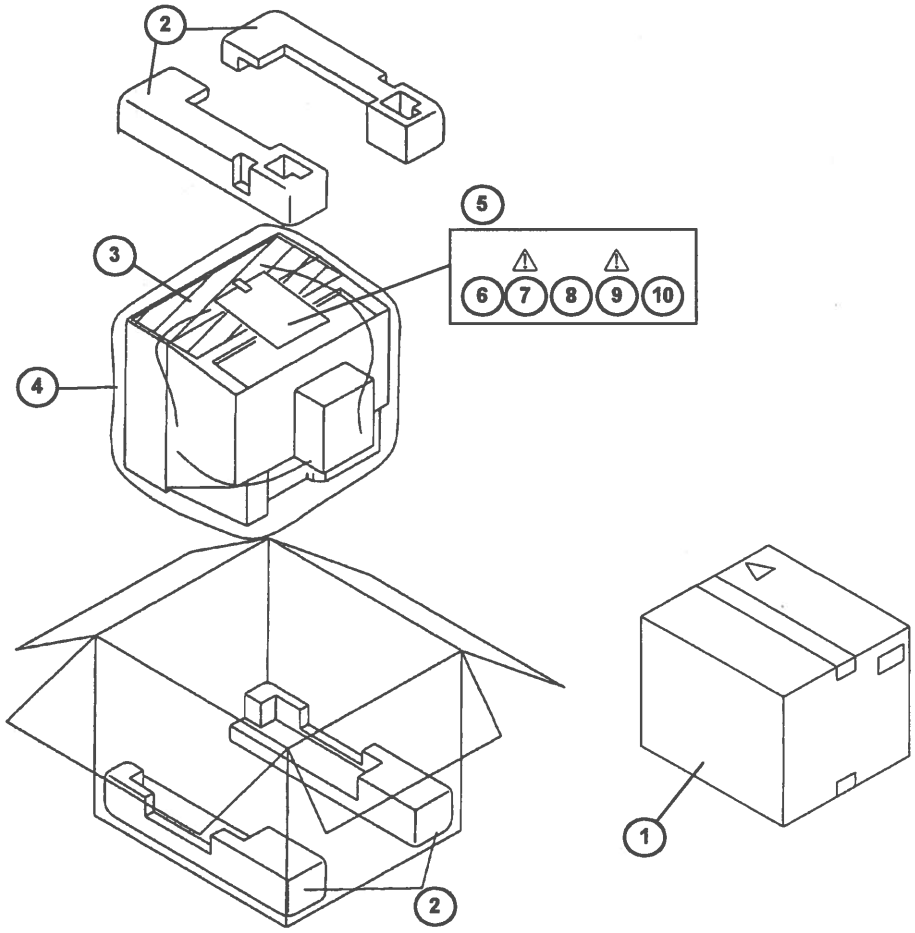
Regarding the parts list for the main PW board ass'y **SFV-1002A-M2**, only the different parts from those of the **SFV-1001A-M2** are described. For further details regarding the other parts, refer to the parts list for the **SFV-1001A-M2** described on page 28 through page 33.

⚠	Symbol No.	Parts No.		Parts Name	Description
		C-13910 (US&CA) SFV-1001A-M2	C-13911 (US&CA) SFV-1002A-M2		
⚠	CN10PW	QMPD070-200-JC (Charcoal type)	QMPD079-200-JC (White type)	POWER CORD	
	RESISTOR R1758	QRSA08J-681YL 680Ω 1/10W J	QRSA08J-122YL 1.2kΩ 1/10W J	CHIP MGR	

REMOTE CONTROL UNIT PARTS LIST

⚠ Symbol No.	Part No.	Part Name.	Description	Local
[C-13910(US&CA)] ***Charcoal model***				
	UR64EC1822A	BATTERY COVER	(RM-C542-1H)	*
[C-13911(US&CA)] ***White model***				
	UR64EC1822B	BATTERY COVER	(RM-C542W-1H)	*

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
[Aremica model]					
	1	LC10058-001A-A	PACKING CASE	[C-13910]	*
	1	LC10058-002A-A	PACKING CASE	[C-13911]	*
	2	LC10057-001A-A	CUSHION ASSY	4pcs in 1set	*
	3	CP30055-001-A	TOP COVER		*
	4	CP30056-009-A	POLY BAG		*
	5	QPGA025-03505A	POLY BAG		*
	6	RM-C542-1H	REMOCON UNIT	[C-13910]	*
	6	RM-C542W-1H	REMOCON UNIT	[C-13911]	*
⚠	7	LCT0107-001A-A	INST BOOK	[ENGLISH]	*
	8	BT-51006-1Q	REGISTER CARD		*
[Canada model]					
	1	LC10058-001A-A	PACKING CASE	[C-13910]	*
	1	LC10058-002A-A	PACKING CASE	[C-13911]	*
	2	LC10057-001A-A	CUSHION ASSY	4pcs in 1set	*
	3	CP30055-001-A	TOP COVER		*
	4	CP30056-009-A	POLY BAG		*
	5	QPGA025-03505A	POLY BAG		*
	6	RM-C542-1H	REMOCON UNIT	[C-13910]	*
	6	RM-C542W-1H	REMOCON UNIT	[C-13911]	*
⚠	7	LCT0107-001A-A	INST BOOK	[ENGLISH]	*
⚠	9	LCT0108-001A-A	INST BOOK	[FRENCH]	*
	10	BT-20071B-Q	SVC CENTER LIST		*

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C-13910(USM) #3 C-13910(CAM) #4
C-13911(USM) #3 C-13911(CAM) #3
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SERVICE MANUAL

COLOR TELEVISION

BASIC CHASSIS
FV

C-13910 (US&CA)
C-13911 (US&CA)

Supplementary

Since same details of the C-13910(US&CA)/C-13911(US&CA) service manual (No.51363, Jan. 1998) were incorrect, we are informing you of these errors and of the correct descriptions.

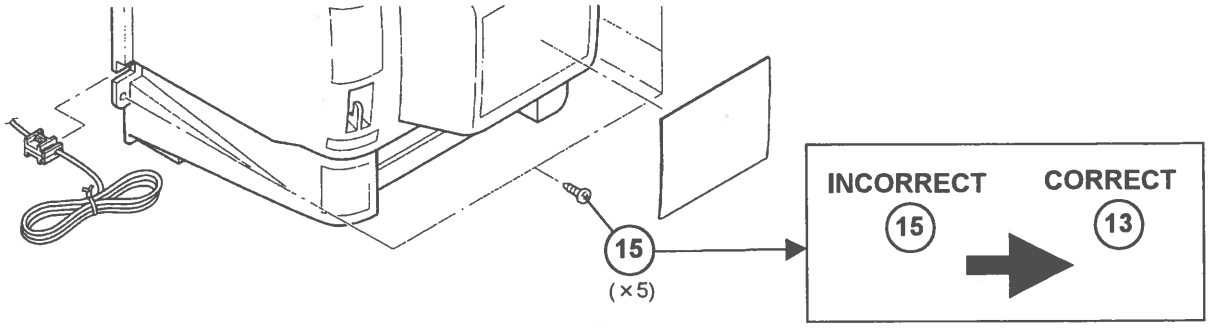
■CORRECTED ITEMS

1. SPECIFICATIONS (Page 2)

Items	Content
Dimensions (W × H × D)	14-3/8" × 13-3/16" × 14-3/4" / 36.4cm × 33.4cm × 37.4cm

INCORRECT	CORRECT
13-3/16"	13-1/8"

2. EXPLODED VIEW (Page 27)



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Operating Instructions for 13" TV [C-13910(US&CA)/C-13911(US&CA)] Service Manual

- A common operating instructions has been issued for **13"** and 20" TV models.
  For detailed instructions, please refer to the Operating Instructions attached to the 20" TV [C-20910(US&CA) / AV-20920(US&CA) / AV-20921(US&CA)] Service Manual. (No.51364, Feb. 1998)

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C-13910(USM) C-13910(CAM)
C-13911(USM) C-13911(CAM)

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